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The Necessity for the Elevation of the Moral, Social and Intellectual Status of the Agricultural Masses.

The farmer should not only be a reading, thinking, intelligent man and well informed in the theory of his calling, but he should be a public-spirited man, a good citizen and a useful man in his community. He should rightly apprehend his duties and obligations as a good citizen and should endeavor to faithfully discharge them. But to do this he should understand the *character* of our government.

Ours is a popular government, formed by the people, in the interest of the people and to be administered by the people or their representatives. In all governments there necessarily exist a sovereignty, or sovereign power. In a monarchical government this power is vested in the sovereign, whether it be a king, emperor or other dignitary. In a popular government it is vested in the people, who constitute the sovereignty, and every citizen is a sovereign or an integral part of the sovereignty.

It is the duty of all sovereigns to use all of their powers and influence to promote the best interest of the people. In a monarchical government this duty devolves upon the head of the government, whether it be a king, emperor or what not. In a popular government it devolves upon the *people* themselves.

It may not be in the power of the private citizen, living under a popular government, to assume any direct participation in making the laws or administering them. He must do so by proxy. He must do so by his representative—whom it is his duty and privelege to choose at the polls. It is here that he may cause his influence to be felt and his wishes to be respected. By a wise and patriotic exercise of the franchise he may dictate governmental policy, and shape it to his own interest and the interest of the public.

Legislative action affects the interest of all classes, either favorably or adversely, and it is the duty of all classes to secure such representation in our legislative bodies as is necessary for their protection and advancement.

This, most of the business classes do not fail to do; and some of them—particularly the manufacturing classes—not only provide able and a numerous representation, but they resort to other means to influence legislation in their interest. The press is subsidized, the machinery of the lobby put to work and money freely used to secure this end. Hence all this class-legislation, such as protective tariffs and the like, which tend to build up one class at the expense of another—the agricultural classes being almost always the drag-horse, whose back has to bear this burden of oppression which is sure to fall upon some body. Here again the agricultural interest becomes an exception to the rule. Although they constitute two-thirds of the population of the country, and although this interest is the most important and valuable of all, they make little or no effort to secure their due representation in our legislative bodies. Indeed they scarcely have any representation at all. Take a peep into our most numerous legislative bodies, and it is a rare thing to see a farmer repretative in one of them. The farmer, like Gallio of old, "cares for none of these things." He goes to the polls and deposits his ballot there, but not for a representative man of his own class. He is content to take any man whom the caucus or the convention may set up, and this man is generally taken from the ranks of other classes and not at all identified with the agricultural interest. This failure to secure their alloted representation does not result from a lack of material, suitable for legislative service in their ranks—for there are to be found amongst the agricultural classes men of eminent fitness—men of abilities and high attainments. Yea, and men of the highest personal character and of the strictest integrity—qualifications greatly to be desired amid these times of corruption and extravagance in government circles. This derilection on the part of the agricultural masses, results from apathy, indifference, the want of public spirit, and because they fail to apprehend and appreciate the duties and obligations that are due to the government from every good citizen. Notwithstanding we suffer from the wrongs alluded to, we are still a highly favored people. We live under a popular government, and we have guaranteed to us all the rights and privileges necessary for our happiness and welfare. Our forefathers have bequeathed us a princely heritage and it is the duty of our citizen-sovereigns to see that it be not alienated or wasted. They should preserve and perpetuate them, and if they shoud prove false to their charge they will be held to a fearful reckoning, "for unto whom much is given, much will be required."

What then is the duty of the agricultural class in this connection? What is necessary to be done in order to protect themselves against the aggressions of other classes and to secure just and equal legislation? They must organize and co-operate and take prompt and decided action in that direction and to that end. And the first step to be taken is to inaugurate an active and persistent participation in government affairs, so far as the private citizen can do so, with the view of securing their due representation in our legislative bodies. This they have the power to do, for they have the necessary numerical strength and need only to organize and unite their forces and bring them to the polls to secure that end completely. It is farther necessary that this participation should extend to all primary meetings, caucusses and conventions called to nominate candidates and other purposes. In all the rural districts where the agricultural interest predominates, the people should have full and able representation in these primary meetings, and they should see to it that the men who get the nomination shall be taken from their own ranks and thoroughly identified with their interests. Professional politicians and political tricksters should not be allowed to control these meetings and dictate the candidate. The people should take this matter in their own hands and do the work themselves.

In carrying out this plan it is not contemplated to organize a new political party. The profound action can be taken within the old party organizations, and there will be no necessity of disrupting any existing party affliations. When a member of Congress, for instance, is to be elected in a Democratic district where the agricultural interest predominates a farmer should be nominated, and the same rule should apply in a Republican district.

We disclaim any hostile intentions towards other classes, our purpose being altogether defensive and not aggressive. We recognize the fact that all the different business classes are equally necessary in propeling the machinery of the business world and that none of them can be dispensed with. There is no necessary antagonizing between them, and if each would observe the proper deportment towards the other, no collision or conflict of interest would arise to mar their harmonious action. In fact there is a mutual dependence existing between them, and one can have no existence without the other. What could the farmer do without a consumer and a market for his surplus products? What could he do without the stately ships of commerce to bear these surplus products to the foreign market? What could the manufacturer do without a customer and what would the speculator do without the farmers' crops to speculate on? The farmer is entitled to a fair price for his crops and there should be no unfair combination of other classes to rob him of the hard-earned fruits of his toil. In like manner the manufacturer is entitled to a living profit upon his work, and the speculator having invested his time and capital in his business is also justly entitled to a living profit. "Live and let live" is a good old adage.

But notwithstanding the justice and fairness of these propositions one class *will* take advantage of and impose upon another whenever it has a chance. And there is no means of stopping it, save by every class putting itself in a condition to defend and take care of itself.

It cannot be denied that the agricultural classes are most shamefully extorted from and imposed upon by other classes, mostly by the trading and manufacturing classes. And we point more particularly to the extortions practiced in the sale of their agricultural implements and the higher-classed machines. The writer verily believes that on many of these implements and machines the manufacturer and their agents realize from 50 to 100 per cent. profit. These high prices act ruinously upon the farmer in two ways: first, by forcing him to pay more for them than they are worth and more than he can afford to pay, and secondly by imposing prohibition upon the small farmer and putting them out of his reach by reason of their high price. These machines are coming into general use now and they are becoming a necessity. Politicians are fast ruining the negro as a laborer and the farmer is compelled to resort to the labor-saving machines to supply his place. Again, these machines are very defective in workmanship. They do their work beautifully at first, but they are so frail that they soon break and get out of order. In order to meet all the necessities of the situation there should be a great national organization of farmers empowered to take cognizance of every thing that affects their interest. Such a body should be composed of representatives from all the States, with subordinate organizations in the States and counties. It was at first thought that we had secured all this in the Grange, but the Grange has turned out to be a failure in a great measure. Its organization was fatally defective in several particulars. The first was in making it a secret organization, with a long ritual that soon wearied out every body and caused the Grange rooms to be emptied. The second was in excluding from the Grange room all political topics, whereas these constituted the main subjects requiring co-operative action. We are not alluding to party questions, but to great questions of legislation and public policy, bearing upon the agricultural interest.

In conclusion allow me to urge upon the agricultural classes to no longer allow themselves to be made "hewers of wood and drawers of water" for other classes. Let them awake to a sense of their rights and interest as well as to their duties and obligations as good citizens. Their leading men constitute a class distinguished for their elevated personal character and incorruptible integrity. Send these men to Congress and to our Legislatures to represent your interests instead of going into the ranks of other classes for them. The infusion of such an element into our legislative bodies at this time would have a most happy effect in restraining the vicious and corrupt tendencies of our government.

WM. HOLMAN.

Cumberland County, Va.

Agricultural Topics Abroad.

From our Correspondent in France.

PRODUCING WHEAT.—M. Joulie, head chemist in one of the principal hospitals of this city, has been studying several years the cultivation of wheat, with the view of diminishing its cost of production. He studies the means best calculated to prevent the crops from being laid, and to ensure the ears being well filled and with plump grain. The influence of the composition of the soil has been examined, not only when it is defective in certain elements, but when these elements even are present in excess. Farm-yard manure, M. Joulie considers to be a capricious fertilizer, in regard to its richness in nitrogen; wheat he says ought not to be cultivated on a soil directly treated with farm-yard manure; a root crop should intervene; to supply nitrogen to wheat culture, the assimilable nitrates or ammoniacal salts ought to be resorted to, the former for argilaceous and calcareous soils, the latter for light ones; super-phosphate of lime is to be de-

pended upon as a sheet anchor in wheat culture, and potash in case it be deficient. Expend at least 22 sous per 22 gallons of wheat raised, on mineral manures, and count upon the atmosphere somewhat for nitrogen, concludes M. Joulie. His views have made a little noise, but they require to be studied. It is an illusion to expect that a *pro rata* expenditure of 22 sous will equalize the mineral elements in the soil, for not only do these elements vary in point of utility following the nature of soils, but their commercial value is fluctuation itself. Farmers must not be led away by siren theory, that to employ mineral manures will keep up the fertility of their land; let them purchase guanos, cake, farm-yard manure, ammoniacal salts, while they are able to obtain them. There is nothing to be disputed as to wheat succeeding a tillage crop, but it is absolutely gratuitous to lay down that the atmosphere supplies the nitrogen.

FARM-YARD MANURE.—Professor Dehérain of Grignon, finds after six years experiments on ordinary cultivated crops, that farm-yard manure was superior to all others in respect to greater produce, and less exhaustion of the soil. The culture of sanfoin during three consecutive years led to an augmentation of nitrogenous matter in the arable soils, but this accumulation was not due to the plant absorbing nitrogen from the air, but to the exclusion of carbonic acid, which in the case of tillage, burns and destroys the organic substances in the surface soil. The same gentleman found in the case of oats, that the nature of the manure, but above all the season, can affect the richness of the grain in azote, to the extent of a double per centage.

FLUCTUATION IN GRAIN.—M. Dubost has investigated the fluctuations in the price, production, and consumption of grain, during the last sixty years in France. Despite the increase of production and importations, one-fourth of the population of France, or nine millions of people, have to depend on other cereals than wheat for their daily bread. Thus France has a sufficient home market for her wheat. Relative to prices, these have not remained stationary, as is commonly supposed, but have augmented periodically; also, the elevation of price has been uniform while remaining progressive, and in addition the entire country has benefited accordingly.

The population of France is thirty-six millions; each individual represents an annual consumption of grain of 154 gallons, the produce in round figures of one acre of land; one-half of the total of cereals raised is wheat, one-quarter oats, the remainder rye, barley, buckwheat and maize. The yield of grain varies in France a one-twenty-fifth above, or the same below, the normal quantity yearly cultivated, but it is only in a fair average year that the yield suffices for the wants of the population. The average weight of 22 gallons of wheat, (a hectolitre), is 165 lbs.; it can descend to 154 and amount to 180 lbs. The latter will produce about 156 lbs. of first quality of flour. Flour absorbs 66 per cent of its weight of water; it parts with one-half of this quantity by evaporation when baked, so that bread contains about 33 per cent. of water, almost the equivalent to the loss in bran, etc, which the wheat undergoes during conversion into flour.

COAGULATED BLOOD is an excellent manure, but its use is limited; the blood of the slaughterhouse is rich in nitrogen and mineral matters, but as it decomposes rapidly, it is a dangerous and inconvenient fertilizer. A discovery recently made, enables the coagulating matter to be transformed into a solid, inodorous fertilizer. Fresh blood contains 28 per cent. of organic matter, and 0.80 of saline substances, the rest being water; dried it is reduced to one-fourth of its original weight; in this state it contains 12 to 18 per cent. of azote and 1½ to 2 per cent. of phosphoric acid. Now sulphate of ammonia contains 20 per cent. of nitrogen. The total number of animals annually slaughtered in France for food, is 43 millions, of which number 3¼ millions are oxen and bulls; 7 millions cows; 1½ million calves; 26 millions sheep and the remainder pigs, &c. The total of the blood of these animals amount to 70,000 tons, valued at 300 francs the ton. The total value of guano imported into France during the best years, was 50,000 tons, at an average price of 350 francs per ton. In South America, where in some places upwards of 1000 animals are slaughtered daily, there is a grand future for applying the new discovery, and which consists in keeping the blood when quitting the animal, constantly stirred with a stick to prevent the formation of clot after which per sulphate of iron is added; a kind of paste is then formed, very elastic, and which dries and forms cakes to be ultimately pulverized. The product is inodorous, and contains from 10 to 15 per cent. of azote. In the country district, an ox yields about 4 gallons of blood, valued at 12 sous, and can manure 120 square yards.

N. York Agricultural Experiment Station.

Extracts from Bulletins Nos. 9, 10 and 11.

After discussing the relative values of the Sorghums (of which seventeen varieties were planted) as fodder crops, nothing very decisive being elicited, the *Dhoura* is introduced.

The Dhoura was planted in hills like corn. Twenty-five seeds produced 72 stalks and weighed 57½ pounds. This Dhoura has been recommended as a grain plant in western Kansas where the drouths are so severe as to render the growing of corn uncertain, and fills quite an important place in the farm economy. It is possible that, as our farming becomes more diversified, many of these plants, which at present seem to have no immediate availability, may come into use. If ensilage is to become a feature of the farm, then it seems probable that a variety of crops may be grown for ensilage purposes with advantage, in order to secure the mixture in the silo which will offer the more complete ration than any one article used alone. It is this which gives importance to the investigation into the adaptability of such crops as the soja bean and cow pea.

The silo is now full and weighted. The 1.11 acres of corn fodder yielded 33,172½ lbs. or 16.56 tons of cut fodder, and this filled the silo 9 feet 2 inches deep before the weights were applied, 107 pounds to the square foot. As Mr. Goff remarked, one acre of corn stover filled a box 16x12 feet silo as deep as the tallest stalks of the field were high. The cutting was done by hand, and each two bushel basket of half inch pieces was weighed with its contents before being emptied into the pit. A bushel of the cut fodder, as it came from the machine, weighed nearly 14 pounds, as an average for 1,204 baskets. The Baldwin fodder cutter, largest hand size, run constantly and fed as rapidly as the strength of the men who turned the handle would admit, the men being changed with each basket, was able to cut 1,036 pounds per hour the first day, 1,115 pounds per hour the second day, and 1,128 pounds per hour the third day.

The influence of stirring the soil in conserving the moisture to the soil receives illustration from the lysimeters. These instruments comprise three sections of soil, three feet deep and one ten thousanth of an acre in area, are set level with the surface of a lawn. One is covered with sod, a second is kept bare but untilled, a third has its surface kept stirred to a depth of from 1½ to 2 inches. At the date of our writing, September 14, no water has passed through the first and second since the opening of the month. but in the third, the one cultivated, quite a little water has percolated. This shows that No. 3, possessing more water than the others, was more quickly saturated with the rains. The same fact was also noted for August. No. 1 percolated water equivalent to a rainfall of 0.00 inches; No. 2, 0,135 inches; No. 3, 0.575 inches. Thus we note that soil covered with growing grass evaporates and transpires more water than does hard soil, and hard soil more water than that kept tilled.

Of the *Soja bean* it is said: "This plant still carries out its early promise as a heavy yielding bean and a plant which might furnish abundance of foliage. I know of no more promising thing among seed novelties."

I can not but return in this bulletin to the subject of pasture grasses, a subject fraught with importance to the dairy farmer whose pastures are usually burnt up by the summer drouths and require to be supplemented with fodder corn. *Pacy's Ray Grass*, to which we have referred in previous bulletins, still shows its remarkable growth and remarkable succulence, evenness of foliage and freedom from the habit of tufting. So far as one season's observation upon one soil and upon plants grown from this year's seeding, we are justified in giving to this grass the highest praise. I hope it will be tried another year upon pastures, and we might suggest that one of our native grasses which also seems very desirable as a pasture grass is *Festuca elatior*. This, although a bushing or a jungle grass, that is, a grass which is apt, under ordinary circumstances, to form tufts, yet seems to be a hardy, extremely vigorous, rather succulent grass, whose seed might well form an ingredient in pasture mixtures. It flowers well, and in this respect differs from the ray grass, which flowered with us very sparingly and late. The orchard grass, (*Dactylis glomerata*), is now browning, as one would expect from such an early grass. The grass which seeds early is apt to mature early. The orchard grass has the disadvantage of tufting as evidenced by the appearance of its flowering stalks in bunches or groups. This is an American grass, its culture having been introduced into England from Virginia in 1764. These three grasses in mixture, judging from one year's data only, would form an excellent seeding for pasture grass, carrying their foliage from early spring to early autumn. A more complete observation would undoubtedly add other grasses as forming a more judicious mixture.

The subject of improving seed is not only an important one to consider, but is also a possible direction in which the Station can act to advantage. To improve a wheat to the point already attained by the *Hallett pedigree wheat* of England, and then the distribution of this seed to our more energetic farmers would, in itself, bring advantage to the State. We are endeavoring to make a beginning and have initiated a process of selection by which we hope in the course of time to achieve some success. We are indebted to friends for the gift of single heads of wheat, selected for their superiority, and also to other gentlemen for the gift of seed in larger quantities. We think as farmers become better acquainted with the Station and its work, that many of them will be mindful to aid the Station in this direction, not only through the gift of small quantities of seed which appears to them of superior promise but also in co-operating in these attempts The Station will gladly give the data under which seed may be improved and the grower thereof may be benefited.

Analysis of the *Tomato* by Mr. Babcock, Chemist to the Station:

EARLY ACME TOMATO.

	Fresh substance.	Dry substance.
Water	91.26	.....
Ash	.73	8.3
Albuminoids—Nitrog. x by 6.25	1.00	11.2
Free acids (calculated as Malic)	.57	6.5
Sugar	3.46	39.5
Crude fiber	.70	8.0
Other Carbohydrates, by dif.	2.28	26.3

As a matter of interest we have tested the amount of sugar in the stalks of common field corn. On September 15th stalks of the Waushakum variety, cut from the hill and stripped of leaves, yielded 57.07 per cent. of juice of specific gravity 1040. This juice contained 2.77 per cent. of glucose and 2.96 per cent. of cane sugar. On September 18th stalks of the same variety yielded 50.17 per cent. of juice of the specific gravity 1048. The juice contained 3.23 per cent. of glucose and 6.72 per cent. of cane sugar. The ratio of cane sugar to glucose it will be perceived, was as 1 : 2.15 on September 14, and as 1 : 2.08 on September 18th. The juice was expressed in an ordinary jelly press, the stalks having been previously crushed in a mortar.

Bulletin No. 11, dated September 30, discusses the prolificacy of plants, especially the most common weeds. Two or three examples will suffice.

The number of species of weeds upon the Station farm is quite large, and the number which can start on a limited area is very surprising. June 22d, a single square foot of ground in our pear orchard, that had been plowed and harrowed this season, was found to contain 356 growing plants, comprising 7 distinct species, not counting grasses or clovers. At the same date our forage plat contained 24 species of weeds, our lawn 13 species, our fields 30 species and our garden 23 species.

On September 28th one vigorous Purseley plant (*Portulaca oleracea*) contained 9 branches, the average branch 15 branchlets, the average branchlet 212 seed capsules, one average seed capsule 75 seeds, thus making for an estimate a grand total of 2,146,500 seeds.

June 21st, an average plant of Shepherd's Purse, (*Capsella bursa-pastoris*), contained about 1,000 pods, each pod at least 20 seeds, and more bloom to come. A better specimen showed 2,200 pods and still blooming; a vigorous specimen had 4,400 pods at least, and still blooming. The number of seeds to the plant may therefore be estimated at from 20,000 to 80,000.

On August 29th an average-sized plant of pigweed, (*Chenopodium album*) had twenty-eight branches. One branch bore 21 branchlets. One average branchlet bore 13 flower spikes. One average spike contained 108 seeds. The computation for the plant is, therefore, 825,552.

The seeding prolificacy of weeds is not so very surprising when we consider that in order to maintain themselves against the effort of man to destroy and to remain as weeds rather than as accidental plants, this fecundity is of the greatest consequence to the species; and that the plants we call weeds have become the select ones, those whose power of multiplication and resistance have either been originally very great, or else great by modification. Could select varieties of cultivated plants be maintained against such adverse influences as have been overcome by weeds, such a variety would become of incalculable value to the cultivator. Unfortunately, however, quality seems not correlative with resisting power of the species.

A Lady's Experience in Silk Culture.

Mrs. J. B. Mitchell writes to *Home and Farm*, from Hawkinsville, Pulaski county, Georgia, concerning her practical experience in silk culture, as follows:

"I had read a great deal about the success and profits realized by silk culturists in the United States, and by experts in many of the silk districts in foreign lands. Confined at home by the rheumatism, I thought to test these assertions, and by so doing dispel in a measure the monotony of an almost unvaried home life. With an abundance of suitable food for rearing the silkworm, I began silk culture with zeal and great expectations, but before the cocoons were gathered I was crestfallen, weary and disgusted with the enterprise. I thought to give it up; but as my hand found something to do, and my mind a new subject to study and investigate,

I decided to try again and see what could be accomplished by persistent perseverance. Success has been my reward.

"Silk culture is like any other business—it requires patience, perseverance, and a little experience before success can be attained. 'If at first you don't succeed, try, try again,' is a good rule to work by in any chosen avocation, and the persevering will surely reach the goal.

"Without hesitancy I recommend this industry to the women and children of our land. Very little capital is required. It is a healthy, pleasant and profitable employment when judiciously managed, and offers remunerative occupation to the many idle hands unfit for manual labor or the heavy duties of a household. I use no netting; feed all young worms on leaves from the *Morus multicaulis*, and continue this feed until the third moult. I then feed entirely on leaves from the white bearing mulberry, as this variety is *said* to produce the best silk. The *Morus multicaulis* is the only variety of mulberry that will renew its foliage a number of successive times the same year. It is also the first to furnish leaves for feeding silkworms in early spring. The leaves can be stripped from the branches three and even four times a season, without detriment to the tree, provided the terminal bud, with a leaf or two nearest this bud, is left uninjured.

"Parties who raise the bivoltine and trivoltine breeds would do well to keep this vraiety to supply tender leaves for feeding the young worms of their successive crops. I have not lost a dozen worms since my initiation in silk culture. This success I attribute to my mode of feeding and general management.

It is useless to make an outlay of money to experiment in silk culture. If you have a supply of mulberry or osage orange trees, there will be nothing to buy except a few thousand eggs. Any out-house or spare room having a fire-place, plenty of light and good ventilation, can be appropriated with success. We, in the far South, seldom need a fire in our cocooneries. Shelves are best made of old, seasoned lumber. Spare tables, with benches set upon them do finely. I have in my cocoonery an old dining table of fifty years ago; this is covered with old newspapers. In the centre are placed two benches nine feet long, covered with old newspapers. With this arrangement I raised my first crop of cocoons. The other furniture consists of stands of shelves; the first shelf is two feet from the floor, the others fourteen inches apart. These stands must not touch the wall and must have sufficient space between them for the feeders to pass with ease. The house is not ceiled, and the ventilation is perfect. If you have an unwanted surplus and prefer, then build a cocoonery according to rule, but your worms will do no better than those reared in an unpretentious establishment.

"Silk culture, I think, will become a permanent industry throughout the Union. Cotton can only be raised in the South, but *silk* anywhere where the mulberry tree will grow."

Dog-Proof Fences.

Messrs. Editors American Farmer:

Is there such a thing as a *dog-proof fence?* The barbed wire men say they can make it. I put up a pen with fence of the barbed wires, and placed an old sheep in it for some days. No dogs got in. Then I put a young dog in it, and he went through the fence in spite of the barbs. Of course, a dog-proof fence can be made at a price, but can it be done at any "farming" price? A.

Hampton, Va.

[We shall be glad if any of our readers can answer this inquiry from their experience or throw any light on the subject.—EDS.]

Turning Under Field Peas.

Messrs. Editors American Farmer:

Will some of your correspondents, who have had experience on the subject, give their method of turning under a growth of Southern pea vines. I fully appreciate their value as a renovator of land, and when used in connection with lime but little inferior to red clover. But to get them turned under nicely, "ah, there's the rub." The vines catch and pull out roots and all and role up under the plow-beam and make a wretched job of it.

A short article on their culture, growth and burial would be acceptable, I think, to more than one of your numerous readers. T.

[This should have appeared before. We hope some of our readers will give our correspondent plans which have been found to work well for the purpose about which he inquires—EDS.]

Care of Wagons.

There is no season of the year when farm wagons and pleasure carriages need so much looking after as during dry weather; it is then that the wood work shrinks and leaves the joints opon so as to weaken it in every part, but more especially the wheels. These often shrink so much as to loosen the tires; when this takes place, unless they are reset at once, the spokes become loose, making a very unpleasant rattling, and at the same time wears the end of the spoke so rapidly that often before the farmer is aware of it, it is so nearly worn off that it must be replaced with a new one; but even then, the wheel is never so good as it would have been if the tire had been reset before the spokes had become worn so as to weaken the other parts of the wheel.

To set a tire just right requires good judgment on the part of the blacksmith. In the first place he must see that the rim of the wheel is the right size to make the spokes tight when the work is done; and in fitting the tire, it is important that it should be small enough to be perfectly tight and yet not so small as to spring the spokes of the wheel, and thus make the wheel dishing. Many wheels are very badly injured by setting the tires too tight.

Wagons are kept in good order the cheapest by repairing defects as soon as discovered. Not only should the farmer see to it, that the axles are kept well oiled, but he should see that the nuts on the bolts that are used to strengthen and keep the woodwork together, are kept tight. A few moments spent in this work sometimes saves expensive repairs or perhaps a break down.

It is important that wagons should be kept well painted. All of the heavy farm wagons may be kept painted by the farmer himself, at a very trifling expense. One dollar's worth of paint will paint several wagons; so the outlay for this work will be principally for labor. It is important that wagons should be housed and kept from the rain when not in use.

Varnished wagons should never be housed in a stable, or where any stock is kept, for the ammonia that sometimes comes from the manure kills the life of the varnish, destroying all of the gloss. It is always best, if possible, to keep varnished carriages and wagons in a building away from the barn.—*Mass. Ploughman.*

STEPHEN MAGRAW, of Cecil county, had a fine Jersey cow, and he asked $125 for her. Thomas Waring wanted to buy, but objected to the price, saying that he would give the owner $10 per pound for all the butter his cow made in a week, and the animal was to be fed but two quarts of corn bran morning and evening. This Mr. Magraw accepted, and at the end of the week the cow had yielded nearly 13 pounds of butter, fixing the price at $126.25, a trifle more than the owner asked for her.

Live Stock.

Stall-Feeding Cattle.

It is related of the ancient philosopher Cato that on being asked which was the most certain profit arising out of agriculture he replied: "To feed stock well." If we should ask any agricultural expert at the present day the same question, we should certainly receive the same answer, for it not only "stands to reason" that two profits are greater than one profit, but it is the universal experiences with the best farmers that to feed the produce of the farm to stock and sell only the ultimate and most concentrated form of these products is not only the most indispensable means of maintaing the fertility of the farm, but that it is the method by which the most money is made out of the soil. In agriculture, as in other industries, it is found that the greater profit is in making from the raw material the most finished products, and so putting this raw material through several processes to secure not only the relative profit made upon each, but also to gain the advantages which must necessarily result from the saving of expense by combining several operations in one, and avoiding freights and other charges incidental to every change. As agriculture is the first of all our industries, that it should be carried on in the most economical manner is the most desirable for all concerned; because it gives the farmer the most profit while it gives the consumer his meal at the lowest price.

It is everywhere admitted by stockmen that the profit gained in rearing cattle for the market is rarely ever less than 40 per pent. yearly, and figures are often given to show that 75 per cent. is frequently realized. And this is the result of feeding cattle from birth to maturity. But it is a well-known fact that there is still greater profit in feeding a thin steer costing 5 cents a pound alive until it is worth 7 cents a pound, because there is not only the gain by the increase in weight, let us say 200 to 300 pounds in three months' feeding, at 7 cents a pound, but the 2 cents a pound upon the whole weight of 1,000 pounds or more. This, on the whole, is equivalent to a much greater profit than could be gained from the sale of the crops that are fed.

A regular system of feeding a number of cattle or sheep upon farms, as a part of the farm work, of course necessitates the growing of suitable crops for their support. To feed hay and corn would not certainly be found very profitable, because these are the most costly crops that can be grown upon long cultivated soil, and they are very saleable and bring high prices. But they cannot be produced under the ordinary system of farming with sufficient profit unless under exceptional circumstances, and this is the burden of the complaints made by farmers everywhere. Indeed, Eastern farmers find it so costly to grow wheat and corn that they are not even producing enough in the great States of New York and Pennsylvania, not to mention all the lesser States adjacent to them, to supply the home consumption of flour. Nor will these costly and valuable crops be produced under any other system than one of stall-feeding cattle and growing roots with which the straw can be consumed, together with the use of purchased feeding stuff of high nutritive value, as linseed and cotton-seed cake meals, which cost not more than, or not so much as oats and corn, and are twice as nutritious. Pasturage not being required, every acre of the farm is under cultivation, and as one acre of roots with straw and purchased feed can feed five head of steers for 150 days, the economy of land is very great, a very large proportion of the farm being left to produce grain and hay for sale. So that root-growing is a *sine qua non* of this business and the key to the whole system.

Indeed, the stall or yard-feeding of cattle for meat is very similar in every way to the solling or yard-feeding of cows for the dairy, and one of those special methods of farming in which concentration and system offer a far more remunerative result than common grain farming, and this for the very sufficient reason that it takes the bulky and least saleable crops and changes them into concentrated and very valuable and saleable products, and at the same time, from these exacting proceeds of the soil, is returned a large quantity of very rich manure for the growth of grain crops. It is well known that dairying has been hitherto the most profitable kind of farming, that it has brought more money into the farmer's possession, and has brought his land meanwhile into a more continuously improving condition than any other use to which the farm could have been devoted. But just now dairy products are in excess of the demand and consumption, while meat is scarce and high in price, and is evidently bound to sustain its high value, no doubt, permanently. And these facts show that there is an advantage just now in changing from the dairy to feeding cattle.

But we set out to write about "stall-feeding," and this refers more particularly to manure cattle. Farmers of our acquaintance whose farms give evidence of that pleasing condition known as forehandedness have reached this result by a regular system of stall-feeding in the fall and winter as many thrifty lean cattle as they have room for in their sheds and barns, and by feeding to these all the straw and the corn stalks as rough fodder which would otherwise have been thrown out into the yard to be trodden under foot as litter, to be worked into manure, all of which represents for each ton so many pounds of flesh or fat, or, at least, so much heat and life-sustaining elements as will release the richer foods from this duty of merely sustaining life, that they may be devoted to the more productive effect of making flesh and fat. And it is this branch of thorough farming which we here suggest to farmers as a highly profitable business, and one that tends in every way to the betterment of their farms.—*H. Stewart in New York Times.*

Raising Stock on Small Farms.

The owners of small farms, or farmers engaged in a system of mixed husbandry, often over-estimate the advantages for stock raising possessed by those with large farms and who make this a specialty. The lattter do possess important advantages, but there are some compensations to the stockman on a small scale.

The man with a thousand acres, a herd of of hundreds, etc., can have men employed who will give their whole attention to one branch of the work, and learn to do this better than the average laborer. The large farmer has advantages in selling. He can make up one to a dozen car-loads of stock ready for the market; can sort them to make them sell to the best advantage: can have buyers come to his place, or can ship as he chooses. Full use at home is found for one or more stallions, bulls, etc., and the cost of keeping them counts as a little matter. But the small farmer, he with one hundred acres, for instance, has also his advantages. He can rear and feed a few colts, steers, pigs or lambs without almost no outlay for extra labor and very little perceptible cost in food. He needs horses for his farm work. Often brood mares serve his purpose equally well, and the one, two or three colts dropped each year cost comparatively little to rear. Cows for a home supply of milk and butter, of course, will be kept, and often there is abundance of grass in the pasture for a few "young things," and in the winter the stalk-fields, the straw-stacks, the soft

corn, etc., can be eaten by these, when it might otherwise be mainly wasted. In the winter the large stock grower must have men whose main business is to feed and care for the stock. The small farmer can add the little additional work as a part of the necessary "chores" and scarcely notice the extra time or labor. Of two farmers of the class we are speaking of, the one "with a little extra stock" will usually do as much and as good work during the summer in the fields as his neighbor who "only keeps a cow or two, and enough hogs for his own meat." In the winter the fact that some extra labor is provided for each day is often a positive advantage.

The small farmer has another advantage. It seems to be a law of animal life that the fewer of any sort of animals that are kept within a given area, the more healthy they are. We once asked a large and very successful swine breeder this question: What is the greatest number of hogs that can be kept together with the highest percentage of profit on each? To this he promptly answered, "One. The profit on each hog decreases in proportion as you increase the number." His idea was that the health and thrift of the herd decreased in proportion as the number was augmented. The greater economy of feeding and management which the large farmer or feeder may practice may possibly more than compensate for this loss of health and thrift, but the illustration serves to show that the advantages are not all on one side.

It is not necessary to money making and deserved success in fine stock breeding that there should be a large herd or flock. On the islands of Jersey and Guernsey nearly all the herds are quite small. In horse breeding, there is no reason why the man with three or four mares may not take a high rank as a breeder.

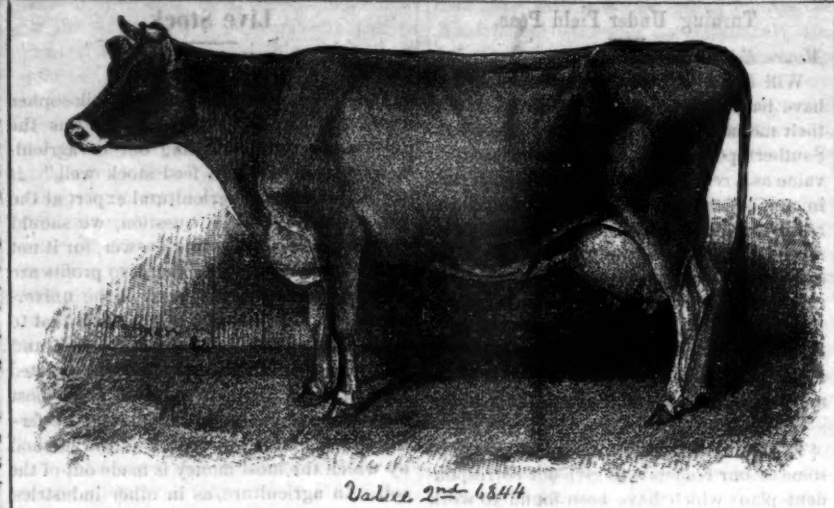
Even for the "renter," if he can secure a lease of the land for three or five years, a fair degree of attention to stock growing will be much better than the exclusive grain growing, which is so often the rule with this class. We have known instances in which two renters each seemed "to just about make a living;" but at the end of five years one would have a lot of live stock worth a few hundreds of dollars; the other have less than when he commenced.—*Breeder's Gazette.*

Butter Test of the Jersey Cow Bomba.

Mr. Edward Burnett in his report to the Jersey Cattle Club, shows that Bomba gave in the week included from October 6 to 12, 205 pounds 6 ounces of milk; the variation of the morning milkings being from 14 lbs. 4 oz. to 16 lbs. 10 oz.; and of the evening from 13 lbs. 1 oz. to 16 lb. 5 oz. Each day's milkings were churned after being kept four days. The seven churnings yielded from 2 lbs. 11 oz. to 3 lbs. 10¼ oz. and aggregated 21 lbs. 11¼ oz.

The cow was milked in the presence of Mr. Burnett and weighed by him personally directly afterwards, and was never out of his sight until it was put away under seal in a room which no one entered save in his presence. Milk and cream were churned together. The pasture was one in which the clover was from two to four inches high and thickly set. The quantity of grain fed night and morning at each feed was 2 quarts wheat middlings and 1 quart clover-meal, or a pint of the middlings replaced by one of linseed meal.

Mr. Burnett says Bomba is of a perfect wedge shape, with deep barrel, her udder almost perfect in form with large and wide-spread teats and meandering milk veins, larger than a man's thumb and corresponding milk holes. The escutcheon is not remarkable; there is but little richness of skin and considerable hair on the udder. The horns are small but without much quality, rather straight and running upward abruptly from the head like the Alphea cows; but the butter is of good quality and color. She shows splendid constitution and a perfect indifference to all surroundings except her feed.

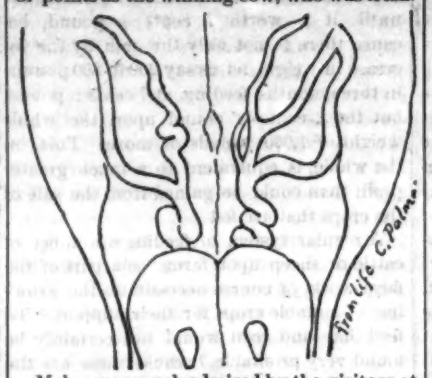


Value 2d 6844.

Our illustration in this issue is of the noted Jersey Cow Value 2d, the property of Messrs. Watts & Seth, and one of the Windsor Herd to whom was awarded the herd prize at the Baltimore County Fair of this year.

Value 2d has a butter record of 24 lbs. 3 oz. in seven days, with her second calf, and in December during cold weather. Her only daughter Garrenne 7268, made 12 lbs. 2 oz. in seven days, with her first calf, and sold for $2,000.

Value 2d is a large cow of the breed; very long, with unusual digestive capacity, and as will be seen by the accompanying diagram, remarkable development of milk veins. She was fresh the 1st of last February, and was therefore not in show condition at the Fair in October; but notwithstanding this she stood among the last four cows in the ring, and is said to have scored the same number of points as the winning cow, who was fresh.



Value was much admired by the visitors at the Fair, not only for her external indications of quality, but as the cow having the highest weekly record of any Jersey now living.

Guernsey Cattle.

This race of cattle, says the *London (England) Field*, seldom get the name and credit they deserve, being coupled with the Jersey or Alderney. Comparatively few people know that there is any difference between the Guernsey and the Jersey, most being frequently ignorant of the fact that the Guernseys are a distinct breed, and, in reality, very different from the Jersey. One great advantage is that they are altogether a more fleshy animal, without the exceedingly bony frame that, though good for converting a small amount of food into milk, gives no protection from hard weather, and will not fatten. There is little doubt that this race of cattle could be well acclimatized and bred to a very hardy, useful breed. Size could be cultivated; they could be in time brought to a larger animal than they are at present, though there are many fair-sized Guernseys to be seen now. The English farmer has ordinarily nothing to fall back upon but "market value." He has no breed that combines quality as well as good milking properties. The "better" he breeds his stock, so to speak, the less chance he has of having a good dairy. His downcalving heifers are of no special value; whereas if they were thoroughbred, and had a quality, whether Shorthorn, Devon, or in fact, any breed, he would have a considerable chance of obtaining high prices for them. The Guernsey heifers are of high value, and always obtain a price, especially now that Americans have taken them up.

The Guernsey cow is a long, deep animal, her depth being carried on all through—wide pins and lots of room behind, and gradually forming into a light-dairy-looking forehead; narrow shoulder tops, and thin neck and head, with no daylight at all under the body. The fawn-and-white patches, cream-colored nose and general orange gloss denote the true breed. They are not the small cow they are generally supposed to be. Mr. James, whose name is well known as a breeder of first-class Guernsey stock, both for show and good milkers, says: "Some of our cattle will come very little short in weight of an ordinary Shorthorn at three years old." Then he goes on: "I have farmed for many years in the south of Scotland, and bred Shorthorns. I had the opportunity of comparing the two breeds." This surely speaks well for the Guernsey.

Though different in many ways, there is a great similarity between the Jersey and Guernsey, both breeds being essentially butter makers' cows, giving similar amounts of butter, and of the same quality. This butter, as is well known, is of a superb quality, color and taste, and always fetches the highest price. The Guernseys give more milk, often three or four gallons to the two or two and a-half of the Jersey. In fact, a dairy of Guernseys would give more milk than the average of ordinary Shorthorns, especially if selected and bred for it. The first prize Guernsey cow at the Royal Counties' show at Salisbury in June last, gave one an excellent idea of what the breed should be. She was deep, long and wedged-shaped, with a splendid bag, and was then giving four gallons per day of milk of good quality, which is not very wonderful for the breed. A Guernsey heifer, after her first calf, was only the other day giving four gallons a day. This was not a prize animal. A Guernsey will yield 350 to 400 pounds of the finest butter in a year.

There is a structural limit to the production of every cow—that is in the actual mechanism of the animal itself. There are no two animals made exactly alike, inside or out. Any difference in the formation of the internal structure might make a difference in many gallons yield in the course of a year. This does not infer that the anatomy of cows is in any way different, but there are undoubtedly structures better formed for produce than others.

As regards the breeding of good dairy cows, it is allowed that, like to a certain extent produces like externally and internally. Then, again, there is a law of variation, against which the breeder of good stock has to struggle. Be it as it may, the only safe road to certainty, or, we might say success, in breeding good milkers, is to breed from pedigree milking stock. This seldom can be obtained where a pedigree Shorthorn bull is used. You cannot have the milking type unless you breed from animals which have been milkers. The Guernsey, both bull and cow, are descended from a stock which have been esteemed for their large produce of milk and butter for generations. With regard to bulls for producing good milkers, it is sometimes argued that the milking properties of a cow invariably descend through the female line; but this gives no ground for any rule, as there have been many bulls which have produced good milkers. For instance, the Earl of Dublin and the Jamestown Bull had this milking propensity.

The structural economy of a Guernsey allows her to convert the food into produce far more perfectly than the ordinary cow. Of course there are advantages in having massive framed animals, in order to attain greater weight when fatted out; but massive frames require a good deal to support life during the time they are in milk, leaving the remainder for the production of milk.

It is easier to infuse flesh into a milking breed of cattle than to create a "milking prepotency" in a fleshy breed. By selecting the large ones, and feeding the calves well, there is no doubt this breed might be made fit for any tenant farmer.

Managment of Flocks.

The Shepherd's Journal has an article on sheep management, which embodies the practice and experience generally of sheep breeders. Lambs are usually weaned about the first of August. They are numbered with label in the ear and separated from their dams. If the grass is good they are allowed to remain in the same field that they and their dams had been occupying. By this practice the lambs become satisfied with their situation much sooner, they know where to find water and shade. Some seasons he places the lambs in a shed for one or two days at weaning, giving them some good fine hay in racks or mangers and giving ground feed with oats in troughs, also furnishing plenty of water; after two days they are turned in the pasture at three or four o'clock in the afternoon and again placed in the sheds after they have filled themselves the next morning. This prevents their rambling over the field in the hot sun or crowding into the fence corners and lying a large part of the day without anything to eat, for they will not feed in the sun in the hot part of the day when flies are bad.

If possible the ewes should be placed in a field out of hearing of the lambs. The ewes should be examined once a day for a week and milked if necessary. It is well to place the ewes on short pasture for a week or more after their lambs are weaned. When sufficient time and care have been given the ewes they should be placed on good grass to enable them to become in good condition before winter.

It is a very common practice with most breeders to keep their stock rams in the sheep barn all the time during the coupling season and give them the required green feed. This course is advisable with rams that are restless and where a suitable pasture lot is not accessible. There is no economy in allowing a ram to become poor and week in the breeding season, from want of suitable food or water, or by over service. The lambs of such a ram are liable to become weak; but when this is not the case they are more subject to disease in after years and are not as valuable for breeders.

Ewes will produce larger and better lambs

if they are in good plump condition at the time of coupling. If not in fair condition they should be gaining and kept improving until spring, or until they reach the desired condition; they will not breed well when loaded with fat. Those having lost their lambs or failed to breed are liable to become too fat to be sure breeders. When this is the case they should be placed on short pasture so as to reduce their weight. The use of valuable ewes is sometimes lost for a year or two by allowing them to become filled with fat. Such ewes are valuable; their inclination to take on flesh readily is a good point, but requires guarding that it may not impair their prolificacy.

Steady Growth of the Dressed Beef Trade.

A dozen years ago there was a regular trade kept up during the late Fall and Winter season of every year, in dressed beef, between Chicago and other Western points and the principal seaboard cities, the ordinary weather of the cold season of the year being depended upon exclusively for keeping such meat sound from the time of its being slaughtered in the West until it reached the consumer in the East. A large amount of the beef thus treated often became frozen as hard as severely cold weather could freeze it, a condition which always impairs the quality of fresh meat to a certain extent. The advent of the spring season always put a stop to this kind of trade in beef; but as this is an age of improvement, refrigerator cars were brought into use for the shipment of beef carcasses, and after a full experiment was made with these it was found that dressed beef could be shipped and kept in perfect condition for any distance during any month in the year, and for the past eight or ten years this system of shipping dressed beef has been coming into common use, until the business has assumed formidable proportions.

Here at Chicago, Swift Bros. are slaughtering and shipping 650 cattle daily in this way. They have their own refrigerator cars, and make their whole business at every point move like clock-work. Messrs. Hammond & Co, at Hammond, fifteen miles from the Union Stock Yards, carry on a heavy business of the same kind in the same way. Both of these establishments ship mainly to New England, where they find ready sale for all the beef they ship, because of the good quality of cattle they slaughter, and the splendid condition in which their beef reaches the markets. Nelson Morris is also prepared for shipping beef in this way, when it suits his purpose to do so. Altogether the shipping of dressed beef from Chicago to the seaboard markets has now become a very formidable branch of trade. A large slaughtering establishment has lately been erected at Sherman, on the Union Pacific, for slaughtering and shipping dressed beef to Chicago, St. Louis, Pittsburgh or any other desirable market, and a formidable company with a heavy capital has just been organized to carry on the same kind of business between Texas and any or all of the chief consuming markets of the North. Large chill rooms are being fitted up in Baltimore, New York and other eastern cities, to receive such beef from the cars that carry it to those markets and keep it in perfect condition until sold. It now looks as if this was one of the revolutions that is never to go backwards. Last week a representative of *Harper's Weekly* was here with a view of making pictorial sketches of the different grades of beef that are being shipped in this way from this point for that widely and well-known periodical. This artist told us that he had become well satisfied that the shipping of beef in the carcass was in the near future to become very general all over the country, and they wanted to give the new system an early recognition for the benefit of their readers.

This new departure has been of late causing a great deal of excitement among the butchers of Baltimore, New York, and other cities, as it kills their trade in beef effectually; but all this is nothing more than has happened in every trade revolution that has taken place in the country. There are several strong advantages in favor of this method of carrying beef from the place of production to the consuming markets. A single car carries twice as many dressed carcasses as live cattle, and where the beef is handled with strict care from first to last it is always in better condition for consumers' use than where it is slaughtered and sold before the animal heat leaves it. There is a vast amount of abuse saved to the animals in shipping. The bruising and starving of cattle while in transit between the places of production and consumption is one of the crying evils of the day. The new system affords a remedy for all this. Beef in the carcass can be shipped in perfect condition from Chicago to Liverpool or London, thus saving the abuse and risk of shipping the cattle alive over the long land route and sea voyage. From our standpoint in all this matter, we are only looking at and dealing with the inevitable.—*Drovers' Journal.*

Developing the Udder of the Cow.

It does not usually occur to breeders, says the *National Live Stock Journal*, that the udder is as susceptible of development as are the muscles of the trotting-bred colt. Any gland or muscle can be invigorated and made to take on more than its natural growth by a degree of handling. Development comes of circulation to the part, and free motion invites blood, while inactivity does not. While the carpenter is using the saw or plane, the right arm receives largely more blood than while at rest. So, likewise, if the udder is handled, whether it has milk in it or not, blood will flow to it in an increased quantity, adding to the tissues of the part.

This would be the necessary result in the case of the young heifer as well as of the grown-up cow. A small lump, or thickening of any of the soft tissues upon a part, in the case of a person, is sometimes made to grow and develop into a large tumor in a few months, simply by handling it frequently. The udder of the young heifer never having bred, can be made to secrete milk, by exciting a flow of blood to it, in the manner named. As the cow, under our forcing modes, is, in so far as her udder is concerned, thrown into an artificial state, this organ taking on excessive action, it is a question worthy of consideration, whether the gland may not have a degree of immunity imparted to it by toughening the structure through handling, as the muscles of the colt are strengthened by severe exercise, rendering it thereby more secure against injury by active use.

As the cow, or heifer, approaches the completion of gestation, the udder receives a large flow of blood to it, takes on high excitement, and it is a question worthy of being settled by careful trials, whether or not the udder of the heifer may safely be increased in volume by manipulation, rendering it at the same time more nearly proof than now, against the sensitive and irritable state into which it is liable to drift, when its functions are brought into active play. Even though this be not done until the udder of the heifer begins to spring, as she nears calving, there can be no question as to our ability to enlarge its capacity for milk giving, while at the same time we accustom the heifer to this handling, and when she drops her calf, it will be found that she is already trained to submit to the milking process, and will stand quiet under it.

At the Iowa State Fair 35 lbs. of milk from two Jersey cows were churned after being put in a deep can for two hours, in water at forty-two degrees, and 3 lbs of butter was the product.

The Future of the Jersey Cow.

Hark Comstock, a well-known writer on, and critical observer of the career and performances of, this animal, says in the *Breeders' Journal*, the Jersey cow seems to be rising to great popularity as a dairy animal as well as a family cow.

"That previous to the spring of 1880, $700 was very nearly, if not quite the highest price that a Jersey had made in this country at auction, and $200 to $350 was a range of prices that would buy, either at public sale or from private herds, really attractive cows and heifers. In 1880 and 1881 much larger auction prices were made for tested butter givers and for animals that possessed special blood that had become popular with the public. But while, during that time, very large prices had been made on exceptional animals, it was a noticeable feature that a medium class of cattle, and, in fact, a really good class that had no such special blood, continued to sell for but little advance upon former prices. But late in 1881, and thence to the present time a great demand sprang up for registered stock of all classes from common to best. The result has been that prices have advanced fifty per cent. on the lower qualities, while the more popular sorts have doubled several times over in value. The question of interest now is that of the permanence of the demand. In 1880 and 1881 it looked as though there was to be a widening of values—the poorer kinds to be lower in price and the better kinds higher. But of late all kinds have advanced.

"The activity in the entire market conclusively indicates an enlargement of the breeding interest, and leads to the conclusion that there will be a much greater production of Jerseys than heretofore. This might not appear evident to the casual observer, as the activity in the market implies only a change of ownership; but while the change does not in itself increase the number of breeding cows, it causes many heifer calves to be registered that otherwise would have been turned off and disappeared from the breeding world by being crossed with other grades. As Jersey heifers usually come in at 2 years old, the increase of breeding cows taken throughout the country is, of course, very rapid, and we doubtless have far more pure Jersey stock in this country now than there is in Europe. The present rate of importation amounts to nothing compared with the domestic increase. The first thought, therefore, will be that the supply will ere long exceed the demand; but before that conclusion is reached let us consider what the demand is likely to be, and what is to cause it.

"If the qualities claimed for the Jersey are *real*, and the impression seems to be gaining ground that they are, it is evident upon the same principle that improved machinery in any manufacturing line, gradually but surely, drives out older methods of manufacturing, that the Jersey cow must in time supplant all other kinds of stock that are employed in the making of butter for market. Take this vast and rapidly developing country and think for a moment of the magnitude of that mission. If the mission is doubted, or is considered impossible, let us look for a parallel. We find it in the work that the Short-horn is accomplishing in the beef supply of our nation and others. The Texan steer will soon be a thing of the past. The cattle of the plains, by grading up, are virtually becoming Short-horns. Just in the same way the butter stock will need to be modified. The spreading of the creamery system is carrying with it the necessity for a butter cow. This great revolution in type will have to be done by grading upon the common stock now in use or else by the substitution of pure-bred cows. At present the latter are too high in price for common use. The difference between a poor Jersey and a good native is in favor of the latter; hence the desired modification cannot be accomplished except by the use of the better class of Jersey blood. The business of supplying this must fall upon the professional breeders. * * * The Jersey cow is now attacking the question of butter supply, just as thirty years ago the Short-horn attacked the question of beef supply. Surely breeders of Short-horns, who have meantime pursued their vocation with business-like attention, have had no cause to complain, nor will breeders of Jerseys. Of course, among those of greatest enterprise, possessing means, some will profit more largely than others less favorably situated, just as has been the case with Short-horns; but there is an ample field for reasonably profitable returns on good Jerseys for all who are likely to adopt them understandingly.

"But the signs are ripe that, in special directions, much higher prices are likely to be obtained for Jerseys than have yet been reached. Within the past week, to my certain knowledge, $10,000 cash was offered by Mr. G. W. Farlee, of Hill Top farm, Trenton, N. J., to Mr. A. B. Darling, of Darlington, N. J., for a cow. In discussing the matter with Mr. Farlee, after the offer was declined, he stated that it was made on purely business principles; and that, with average chances in her favor, the cow was worth more money; and that he felt more confident that the purchase would have proved a profitable one. The cow in question was Bomba 10330. She is milking on her second calf, and had just completed a test of 21 lbs. 11¼ oz. of butter in one week, under the inspection of a committee appointed by the Board of Directors of the American Jersey Cattle Club to guard the test in detail. This action was taken unofficially by the directors of the club, upon the request of Mr. Darling, as he had heard that the earlier tests of the cow had elicited from among their number expressions of disbelief, to the purport that, while Mr. Darling meant well enough, and was sincere in his statements of the cow's yield, he was grievously deceived by his employes. The outcome proved conclusively that Mr. Darling was neither deceived in his employes nor in his cow. Bomba is a granddaughter of Eurotas 2454, that tested for Mr. Darling 778 pounds of butter in less than a year while carrying a calf; and she, in turn, is a granddaughter of Col. R. M. Hoe's famous Alphea 171. The most prized collateral factors in Bomba are the Riotor blood, that came in through Eurotas, and the blood of imp. Violet of Darlington 5573, from which her dam sprang. Violet proved herself nearly a twenty-pound cow. Bomba has the great loose-skinned udder that milks to a collapse, which characterizes the Rioter influence, and is the first of Eurota's descendants to show "public form." Her test, in view of the circumstances under which it was made, created much interest in local Jersey circles; and as it surpasses any other instance of a cow of like age (approaching 4 years), it affords a very forcible illustration of a cow of unsurpassed quality resulting from strains of blood of unsurpassed quality, tried and found altogether perfect by disinterested and indisputable evidence. Hence it was that Mr. Farlee was willing to pay for her, on purely business principles, nearly double the best price that has yet been made for a Jersey.

"Now, if we look to see upon what basis this price was offered, we find that the case involves several reasons acting in common. One was that the cow was the greatest known performer of her age; another was that she came legitimately by her qualities by abundant inheritance, and would, therefore, be the more likely to transmit them to her offspring.

Poultry Yard.

Dampness.

At the present season, when the weather is damp, a greater mortality occurs among fowls than during any other period of the year. Everybody who keeps poultry fears the cholera, but there is another disease far more to be dreaded than cholera. It is roup. When the cholera gets into a yard its work is done quickly. It carries off nearly all in a very few days. If no other sign was known it would be recognized by the speed with which it sweeps away a flock. Roup, however, is a disease that appears in various forms. It comes stealthily but surely, often carrying off the fowl before the farmer can realize that it has been sick for a week. A fowl may have the roup, have a good appetite, and show no signs, unless by close examination, of being affected with it, and may be in this condition as long as a month, until finally it dies on the roosts at night after appearing well during the preceding day. Again, roup appears violently, swelling and closing the eyes, bringing out great swellings on the side of the head, and killing quickly. There is a certain sign, however, when the disease is present, and that is hoarse breathing. Bring the ear close to the nostrils of the fowl and its breathing will be very hoarse, and even harsh. The nostrils also emit disagreeable, foul matter, which is another sure sign. The remedy is to provide warm quarters, for roup is a disease caused by dampness and cold. It is attended with violent sore throat and sometimes pains. The symptoms are almost identical with those of humans afflicted with colds. Medicines are of but little use, unless assisted by warmth and protection from exposure, but if medicine is used there is nothing equal to a solution of chlorate of potash given in teaspoon doses three times a day, with an occasional red pepper powder in the food. Feed with changeable food, alternating, hard and soft.—*Farmers' Magazine.*

French Method of Feeding Chickens.

M. Rouillier-Arnoult, writing in *La Basse-Cour*, a French Poultry Journal, says:

Food and drink for chickens should be put near the chicken house, in the breeding-room especially during the first month. The best food that can be given to chickens is a paste consisting of barley-meal or maize, moistened with milk and water, and kneaded together till it is so stiff that it will not run and dirty the down of the little creatures. The food should be placed in small troughs or boxes made for the purpose, for if it is put on anything flat it will soon be trodden on and soiled by the chickens, and so will be wasted. This paste should constitute the principal food of the young birds, and it may be given at discretion. Too much should not, however, be supplied at once, for fear it should get dry, especially in summer-time. Besides this, the owner may give the chicken anything he likes—curds, creed, rice, crumbled bread, hashed green stuff, etc, etc. Millet and hard-boiled eggs are too heating to be used constantly; they ought to be given very occasionally and in small quantities. If the pullets are to be fattened, corn, oats, barley, etc., should be avoided, as likely to make the flesh less white, and to prevent the birds becoming fat. If, on the contrary, the pullets are to be used for breeding purposes, these substances may be given from the age of six weeks, and the paste should then be given only from time to time. Chickens should be supplied either with very fresh water or with a mixture of equal parts of milk and water. As soon as the large feathers begin to show themselves, which will be when the birds are from eight to fifteen days old, they ought to have water reddened with wine—four parts of water being added to one of wine. Special drinking fountains ought also to be provided, especially while the birds are quite young, that there may be no fear of the chickens drowning themselves or wetting their feathers. Cleanliness is one of the first conditions of success in rearing animals of every kind, but is especially necessary for poultry. The straw or sand used for the chicken-house or the run should be renewed every day, and the buildings should be whitewashed from time to time. A strict watch should be kept up, and scrupulous cleanliness preserved everywhere. Another condition of success is that the birds should be cared for, but not over-cared for. The fact is, they require intelligent supervision, and we often find that people lose entire broods of chickens for the following reasons: In order to keep birds warm, they are put into a warm place near the stove. They are not allowed to go out, because it is cold, or it rains, or the dew is falling. These causes operate every day, and consequence is the chickens remain shut up for a fortnight or three weeks. They seem to be getting on all right until one fine morning they droop, refuse food, their wings fall, and they die. Would you like to know the reason of this? Take a vase, or a small box of any kind; fill it with earth, sow a few grains of corn in it, and place it in your bedroom. What will happen? The young shoots will appear, and will look bright and green for a fortnight or three weeks, and you fancy you will soon see the ears of corn. Nothing of the kind. At the end of about three weeks the shoots turn yellow; they give up growing, and the beautful greenery fades away for want of air. So it is with chickens which are kept in one room. Let it be understood that we are speaking now of chickens bred in large numbers. Chickens bred a few at a time are not treated thus.

We repeat once more, a warm place is needed for rearing chickens. Nevertheless, from the time the birds are four or five days old, they should be allowed to go in and out when ever they want to do so. If they are cold they will soon learn to go in and warm themselves. We will add, however, that dew for chickens under the month is dangerous. Nothing is easier, however, than to guard them from it by leaving part of their run—the part nearest the chicken house—without grass. When there is a heavy dew, or when it rains, the young birds can be kept in this part, and in order to prevent their running upon the grass some light wire railing may be put between the turfed part and the other. In order to save trouble in moving it day after day, the partition may be made permanent, and a small door of communication, to be opened and shut at pleasure, can be put in the centre. We have given here the result of many efforts and of long experience in chicken breeding, and we can certify that if our advice is taken success will attend them, and they will prove for themselves that we are right. The poultry yard is an inexhaustible source of profit which never fails those who know how to make the most of it.

Seasonable Notes.

Food sufficient in quantity and of the right kind, in connection with plenty of gravel, eggshell material, pure water, clean houses, and care, is all that is required to produce eggs.

At this season *roup* is rapidly engendered within the closed hennery. The common (and careless) practice is to confine the birds in numbers too large for the space they occupy, even temporarily.

At Trebizond the turkeys live entirely upon a diet of sprats and other little fish washed on shore by the waves, by which it comes to pass that their flesh tastes like very exceedingly bad fish, and abominably nasty it is. So says a traveler.

The warm, cooked meal and vegetables fed in the morning, now, will be in order daily. At evening the whole corn and wheat, as a solid night repast. Cooked coarse meat occasionally, boiled fish, when it can be had handily and cheap, and always the full supply of green food, is the proper regimen through the cooler and cold portion of the year.

It is a great mistake to winter a large number of fowls. It is a well known fact that poultry keeping is always more profitable where flocks number no more than fifty or sixty each. If two or three hundred are crowded together, they are much more liable to be attacked by disease. We would advise that all hens over two years old should be fattened either for table or market.

We are confident that poultry raising for market, as a business, can be made to pay. And we deem it good advice to say to inquirers upon this topic, that in proportion to the capital needful to be embarked in this enterprise, no undertaking where but limited hard labor is also required, will more satisfactorily remunerate the determined, judicious, willing worker, towards obtaining a goodly livelihood.

During this month it is well to see to the final cleansing of the interior of the fowl-buildings. A good, thorough white-washing or fumigation will now clear out the remnants of vermin lodged upon the walls and in the angles of the houses. The old nests should once more be emptied, washed with kerosene and purified. Fresh hay or straw in the boxes, clean gravel, sand or earth scattered upon the floors, and a good scraping away of all accumulated droppings under the perches are needed just now, to renovate and sweeten the premises, where, in a few weeks, the young stock will be placed in "close confinement" for the winter.—*American Poultry Yard.*

Horticulture.

Orchard and Fruit Garden—November.

Fall planting will claim the attention of orchardists now, and in this operation the "laying off" of the land for new orchards should be entrusted to none but careful and intelligent labor. For the inexperienced we will here offer a few suggestions as to the *modus operandi*. First, for example, we will proceed to plant one hundred apple trees; at thirty feet apart it will require a trifle more than two acres of land to contain that number; assuming now that the land on which the trees are to go has been fallowed, we proceed with the "laying off." If one side is next a fence, begin the first row sufficiently far from the fence to leave ample room to turn with a plow-team between the trees and the fence; then run a *straight* row—a couple of inches to one side of where the row of trees will stand—turn at the end and come back a couple of inches on the other side of where the trees are to stand; lay off each row in this manner, making one "*round*" with the plow to each row,—mould-board side of the plow *from* the "tree row" each time. Then *cross* these rows in the same manner, measuring the distance *precisely* at which you wish to plant, and running straight furrows; by this plan the holes for the trees are very nearly completed with the plow.—Only a shovelful or so of soil, right in the centre of the hole, requiring to be thrown out before setting the tree in, you will find the work is done *better* and quicker than by running a *single* furrow on the line where the trees are to stand, and making holes with spade or shovel.

For apple or other trees of large size, it may be necessary sometimes to enlarge the holes thus made to receive the roots without bending, but peach and other trees that are planted at one or two years' nursery growth, can be planted rapidly and well without any extra shoveling out of soil; then, too, the soil thrown out by the plow in "laying off" ground by this plan, is just at the right places when you come to filling in around the trees. Some planters will say promptly that thirty feet is too close to set apple trees, and to *such* we suggest an increase of the distance, only we beg leave to remind them that it requires a good share of an ordinary lifetime for apple trees to interfere with each other *much* at thirty feet apart; and if you set the trees forty feet apart—as some contend is the proper distance for apple—it requires nearly double as much land to contain one hundred trees, while at thirty feet, on one acre, you have the use for full fifteen bearing years of the orchard, of twenty-one trees *more* than if planted at forty feet. We scarcely think it necessary to say anything here as to selections, as that part is doubtless settled before this. We have repeatedly given the readers of THE AMERICAN FARMER a list of each class of fruit,, such as a fair trial has proven to be profitable and suited to our climate.

In the FRUIT GARDEN, the planting of currants, gooseberries, blackberries, raspberries and grape-vines should receive attention for strawberries, if not planted before November, it would be better to defer the planting until spring, as late plantings of such small rooted plants are likely to be injured more or less by the repeated freezing or thawing during winter. Cuttings of gooseberry, currants and grapes can be prepared now, tied in small bundles with willow and buried "wrong end up" in the ground until early spring, when they can be taken out, untied and set in rows a couple of inches apart. In covering the bundles of cuttings, let there be soil enough thrown over them to keep them clear of frost. In conclusion, we have only to suggest that no more be undertaken, in either Orchard or Fruit Garden, than can be well done and well attended to after planting, as both trees and plants require good and liberal culture to make them profitable.

Root-Pruning Fruit Trees.

Pruning the roots of trees is an operation which is sometimes advisable, with the object in view of making barren trees fruitful; but it applies only to trees that do not fruit in consequence of their luxuriant growth and not to trees which are unfruitful because of starvation. Many expedients have been adopted to cause early fruiting in trees, the most common being to graft them upon weaker-growing stocks.

The pear grafted on the quince is a familiar illustration; by this means growth is checked and flowering hastened. When fruit trees happen to be planted in soil which has been highly enriched, such as in a vegetable garden or rich old meadow, they will grow to large size, and yet not produce fruit. When in this condition anything that will check their growth without injuring them otherwise will throw them into flower and fruit, and root-pruning will effect it, if properly performed. Spring is often recommended as the best season for root pruning, but it is not so favorable a time as towards the end of the present month. By digging out a trench encircling the tree at a distance from three to four feet from the stem of a tree, say twenty feet in height, with proportionate spread of branches, and cutting through at least all the strongest roots, it will immediately check the wood growth of the tree, and many fruit buds will be formed before the leaves fall.—*Western Farmer.*

THE *Lancaster Farmer* says that a great number of grapevines are annually killed or injured through want of protection in winter, which consists of merely laying them down with a weight to keep them prostrated. The low temperature affects them much less than the wind, which dries the wood, and on small tender vines the effect is very damaging.

Mulching Berries.

A writer in the *N. Y. Tribune* says: "Among the most intelligent horticulturists of this country the plan of mulching the surface for a part of the summer months with some cheap material has long ago been accepted as a wise and economical method for fruit growers to adopt. That such a system will keep the surface soil moist in time of drouth, and the soil loose and open during a wet season, there can be no doubts as any fruit grower who has tried the experiment can testify. While talking to a successful small fruit grower about mulching, a short time ago, he said: "If I could find no material to mulch my berries with, I would abandon the business." Another person remarked: "I covered my acre of Kittatinny blackberries, last year, with a heavy coating of salt hay, and the effect was magnificent—large berries and plenty of them—while some of my neighbors who did not mulch suffered severely from the drouth." This kind of testimony could be given without limit, as the experience of practical men who have given the subject careful thought and practically tested the value of mulching. Until quite recently strawberries seemed to be the only fruit that was benefited by mulching, and that more on the account of the mulch keeping the berries clean and free from dirt or gravel than anything else. But the usefulness of a mulch is by no means confined to the strawberry; but where material can be had cheap, there is no question but it would pay well to mulch raspberries, blackberries, currants, gooseberries and pears. Nor is there any question but what the size of fruit would be increased and growth more uniform. Where the surface is covered before hot weather sets in, the mulch will serve a threefold purpose when put on heavy enough. As stated, it keeps the surface soil moist and of uniform temperature during the growing months, the crop of fruit is not checked nor the growth of wood retarded by an excessive drouth. Again, under a mulch the surface never becomes compact, no matter how much rain strikes the hay or straw, and then filters through gradually, giving the best condition for plant growth. Even on clay ground, where the surface has been mulched for three or four consecutive years, it is difficult to compact the surface."

Protecting Plants During Winter.

According to Mr. Wm. Saunders, the utility of protecting plants during winter is not sufficiently appreciated; even those of reputed hardiness in any given climate will well pay the expense of partial protection from the severity of low temperatures. It is sometimes remarked that a plant to be fitted for general cultivation must have, among its good qualities, the faculty of taking care of itself at all seasons; but it must be remembered that the majority of plants, grown for the sake of their products, have been removed from their natural conditions by change of climate, selection, crossing, hybridizing, etc., to such conditions as are found most conducive toward realizing the purposes for which they are grown; protection from extremes of temperature, therefore, becomes a part of culture routine, and in many instances one of much importance.

The degree of cold that plants will resist without being injured cannot be definitely ascertained short of actual experiment; their powers of resistance depend upon many contingencies. A plant will sometimes be destroyed by exposure to a temperature not lower than it had previously encountered without sustaining any apparent injury. It is not to be supposed that this seeming anomaly is due to any change in the laws of nature; but it is to be traced to causes that influence the resisting power, and upon the knowledge of these causes depend our ability to aid, by culture processes and appliances, this power of resistance in plants which form the objects of special culture and care.

The exact process by which cold destroys plants is a matter upon which there is yet room for conjecture. The mechanical action of frost upon vegetable tissue is undoubtedly a cause of injury; fluids expand while freezing, and the expansion of the sap while undergoing this process lacerates and disrupts the tissue, interrupts the connection of the sap vessels, and hastens destruction nd decomposition, especially in delicate and succulent growths. When, therefore, a plant has reached a degree of maturity which has converted the fluid matter into woody fibre, its power of resisting cold is much greater than when its tissue is highly charged with watery matter, so that it is a well established axiom that plants resist cold in the inverse ratio of the quantity of water which they contain, or in proportion to the viscidity of their fluids.

But it is also well known that the mere thermometric degree of cold does not indicate the extent of the injury that plants suffer during winter. The hygrometic condition of the atmosphere is at least of equal importance.

Plants that pass with safety through a zero cold in December will frequently be destroyed by the cold dry winds of March, although the thermometer may not indicate more than ten degrees of frost. The intense acidity of these cold winds act in a similar manner as the hot dry winds of summer

The moisture of the plant is extracted by evaporation, and the resulting injury will depend upon the amount thus evaporated.

It follows, therefore, that whatever tends to render tissue moist and prevent its solidification, increases its susceptibility to injury from cold; and whatever tends to reduce its humidity and hasten the conversion of fluid matter into woody fibre, increases its power of resisting cold; and upon the recognition of these principles all protecting appliances should be based.

Cultivation of Hyacinths.

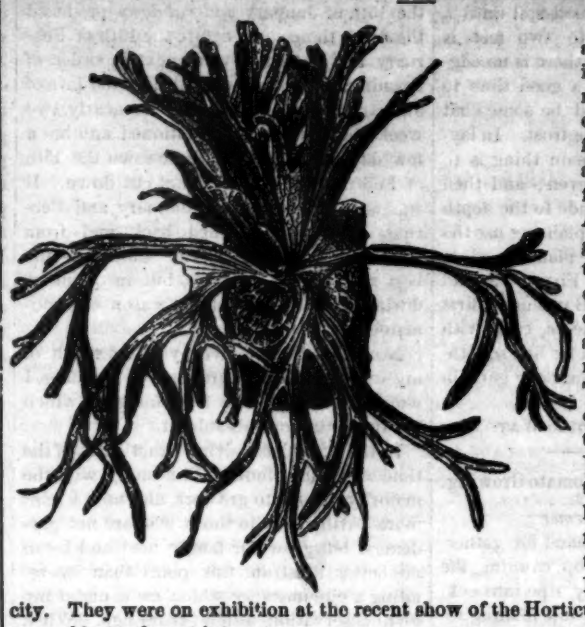
Peter Henderson, an excellent authority, gives this:

The hyacinth is a universal favorite in the most extended application of the word. The number of its varieties is now fully equal to that of any other florist's flower. They are usually grown for forcing into flower in the dull, cheerless months of winter and early spring, when their delicately-colored flowers and rich fragrance lend a charm not otherwise to be found. They are equally desirable for planting in beds or in the garden border. For forcing, the bulbs should be potted from the middle to the end of September in five-inch pots in rich, light earth, and placed in a cold frame or under a wall, where they can be covered with wooden shutters, or some similar contrivance to keep off heavy rains; in either case they should be covered a foot thick with newly fallen leaves, and being once well watered after potting, they may be left for a month to form their roots, when the most forward should be brought out, and, after repotting into larger according to the apparent strength of the bulbs, should be placed in a gentle heat. Some care is necessary in the application and increase of this, or the flowers will be abortive; it should not exceed 50° for the first three weeks, but afterwards may be increased gradually to 60° or 65°, and if the pots are plunged into bottom heat the same careful increase should be observed, or the points of the roots will infallibly be killed. One-third the depth of the pot is fully sufficient at first, and if the heat is brisk they should not be plunged more than half way at any time. When the flower stems have risen to nearly their full height, and the lower flowers of the spike are beginning to expand, the plants should be removed to a lower temperature, usually afforded by the greenhouse, and when the flowers are fully expanded, the plants can be taken to the sitting-room or wherever their presence is desired, observing to protect them from sudden changes or cold draughts of air, and the water given to them should be moderately used.

Hyacinths in glasses are an elegant and appropriate ornament to the drawing-room, and for this purpose occasion little trouble. The bulbs should be procured and placed in the glasses as early in the season as possible, keeping them in the dark until their roots are well started, after which the lightest position that can be afforded is the best; the water in which they grow should be changed twice or thrice a week, and in severe weather the plants must be removed from the window, so as to be secure from frost. For decorating the flower garden, the bulbs should be planted in October or the early part of November, in light, rich soil, at a depth of four inches from the crown of the bulb to the surface of the earth. It may be necessary to place sticks to them when in bloom, to prevent them being broken by the wind, and this is all the attention they require till the foliage has withered and the season has arrived for taking them up, when, instead of the usual practice of drying them at once in the sun, we would advise the Dutch method to be adopted, namely, to place them side by side on a sunny spot of ground, and cover them with about an inch of loose earth, to thoroughly ripen by the subdued heat imparted to the earth which surrounds them. Left in this position for a fortnight they will become dry and firm, and an hour or two of sunshine will finish them properly for storing.

The multiplication and growth of hyacinths for sale is principally carried on out of doors in the vicinity of Harlem, in Holland. The sandy soil, and moisture of both soil and climate in that country, are peculiarly favorable to the growth of the hyacinth. Hundreds of acres are there devoted to the culture of these and kindred plants, and the Harlem gardens are a gay sight from the early season of the year till far on in the summer. The process of multiplication is carried on by sowing the seeds, or by taking offsets from the parent bulb. By seeds new varieties only are obtained; it is by offsets the already known and valued kinds are increased. The bulbs are cut crosswise, and sprinkled with sand to absorb any superfluous moisture that may exude from the incisions. At the expiration of one season they are again lifted from the ground, and the numerous small bulbs, still only partially developed, are separated from the parent root and planted out again and again, year after year, for three or four years, before they become flowering bulbs of fine market quality. The white Roman hyacinth is largely used for forcing for winter flowers by the florists of New York and all large cities. In New York alone upward of five hundred thousand bulbs are used during the winter, and the number is rapidly increasing each year. The flower spikes average four cents each at wholesale. By a succession of plantings, beginning in September, they are had in flower from November until May, and even later.

The Stags' Horn Fern. (Platycerium.)



This belongs to a remarkable genus of Ferns, differing from all other kinds in manner of growth and in development of their fronds. The first produced are broad and roundish, forming a rosette or shield. As the plant advances in growth, the fronds develop themselves from the centre of the shield. They stand out in all directions, presenting the appearance of a number of Stag Antlers. They are generally grown on blocks of wood, to which they adhere like *Orchids*. Very attractive plants for the conservatory. We have heretofore referred to some fine specimens which adorn the greenhouses of Mr. Robert J. Halliday in this city. They were on exhibition at the recent show of the Horticultural Society, where they were objects of great interest.

The Flamingo Plant.

(*Anthurium Scherzerianum.*)

One of the most beautiful dwarf flowering stove plants of recent introduction, producing beautiful, brilliant scarlet flowers, each of which remains from two to three months in bloom. This charming and novel plant is easy of culture, and a most abundant bloomer; but of course only flourishes in the highest temperature of artificial cultivation.

The president of the Ontario Fruit Growers' Association says: "The secret of success in grafting the grape lies in one essential requisite of lifting the vine before grafting, and when the operation is performed, of setting it back again. This checks the flow of sap which otherwise drowns the graft."

Kitchen Garden—November.

The work of lifting and storing roots will proceed, and all should be safely housed or pitted by the 20th. For beets, a cool, dry cellar is best, but they also keep well in small heaps on the surface of the ground. These heaps should be temporarily covered with straw and earth—merely enough to protect them from the sun and from light frosts—to which more earth must be added as the cold increases. By the middle of the month, celery in beds should receive its last earthing up, and also be slightly protected. Every one who raises celery should try at least one box of it in a cool cellar, by way of experiment. Place it in a water-tight box, do not crowd too much, and see that the roots be kept steadily moist, otherwise it will be tough and tasteless. Celery that has been earthed up outside is not suitable for keeping in the cellar. It should be quite green, and if any is wanted at an early date a portion of it may be darkened with leaves or straw.

Set cabbages closely together, heads downward on a dry spot, and cover gradually with leaves. A little straw on top with bean poles to keep it in place is an improvement. Leeks, parsnips, salsify and horse radish, though hardy, should also be lifted and placed where they will be handy to get at when wanted. Early cabbage should be transplanted either into cold frames or to the open ground. It is perhaps well to try both ways. Now is a good time to plant raspberries and blackberries. If the land is light and shallow they will not require stakes; summer pruning will keep them within bounds. On rich garden soil stakes are indispensable and summer pinching is of no account. The most remarkable crop of blackberries I ever saw was grown in deep, rich garden soil on the Hudson. The stakes were seven feet high and had to be very stout to support the immense crop of fruit. I do not think it advisable to give such land up to blackberries; besides the plants are more liable to be winter killed. When stakes are a necessity to either of those fruits, it is well to remember that the young canes have most claim to their support, and if the fruiting canes could only be pushed aside, tied to their nearest neighbors (as I have often seen done), or supported in some other way, it would be a great improvement over the usual way, where old and young canes are allowed to crowd each other all through the growing season.

Mr. Purdy, the prince of small-fruit men, is very severe on those who advise pruning in the fall by taking away the old wood and cutting back the young canes to a proper length; says "they know but little, if anything, about growing raspberries, etc." We can assure Mr. Purdy that excellent crops are raised hereabout in that simple way. Some of us have hardly time to cast a glance at our raspberry patch in summer when he is at work pinching and trimming, and are glad to get a chance to do so any time before winter. So far as I can judge, there is no more impropriety in cutting back a well-ripened raspberry cane than in cutting back a first year's cane in the grapery. The part cut away has not lived in vain. With its leaves it has helped to ripen the part that is left to fruit; and where stakes have been used and some attention has been paid to removing superfluous suckers in spring, I think that the system is as good as any. Of course, it is a great advantage to be able to get along without stakes and to make use of our poorest land—that is, land *naturally* poor, for with all these advantages there is no escaping the usual enriching process if we would look for profitable crops.

Strawberries for spring planting should be lifted and heeled in, if not done earlier. Indeed, most of the work suitable for last month may still be done. Prepare beds for flowers by removing the clay or gravel underneath and substituting good soil until a depth of eighteen inches to two feet is secured. For beds in gravel there is no edging equal to Box. Now is a good time to lay it, after which it should be somewhat protected from heaving by the frost. In laying Box, as in soding, the main thing is to have the ground perfectly even; and then notch it out with a sharp spade to the depth of about three inches, and in planting use the back of the hand to keep the plants in place until the earth is applied. Firm well and level up the ground. The Box should first be divided up into small pieces, each with some roots attached, if it can be had so, otherwise there may be some unsightly gaps in the edging next summer.

JOHN WATSON.

An Interesting Chapter on Tomato Growing.

Messrs. Editors American Farmer:

Now that the time is at hand for gathering the last of our tomato crop, canning the ripe ones, putting the nearly ripe into cold frames to forward ripening, and making tomato *soy* out of the entirely green, so utilizing all, I am forcibly reminded of my promise to report my experience in the culture of this valuable esculent.

I had intended making a report much earlier in the season, was, in fact, upon the point of so doing when your August 15th number came to hand, and having read the article on tomato culture therein contained and finding the experience of the writer so greatly at variance with my own, I thought of waiting, not only to watch my crop to its close, but to see if no one would report an experience of nearer similarity to mine. No one having done so, and my now flourishing tomato plants soon to be laid low by the unrelenting hand of Jack Frost, I can no longer hesitate to give my experience in the culture of them.

The seed sown was of the Alpha, Acme, Trophy, Perfection and New Queen varieties, and while I cannot give the precise date of sowing, can say positively that the first sowing was made *before* the 15th of January, the second *before* the 1st of February, the third *before* the 15th of February, and the last *some time* in March. The culture of the seedling plants was that generally given them in greenhouses, viz.: The young plants (now in seed boxes) having well developed the first rough leaves, were transplanted into the greenhouse beds, (I have solid earth beds in more than half of my house) about three inches apart, and were given just that amount of water and the temperature necessary to keep them in healthy, growing condition. When the young plants had grown so as to entirely shade the ground, a portion of them (about 3,000) were cut back to their axils, from which in time three new shoots were developed; these were allowed to grow until the time of setting out in the open ground where the plants were to fruit. The plants that were not cut down had been planted in the colder part of the house and were watered less than the others, else they would have become unmanagable.

When the time had arrived for planting in the open ground these plants were set out in the order of seed sowing, that is, the plants from the earliest sown seed were the first set out. Many of these plants were destroyed by the cut worm, but as the earliest plants were of the Alpha and Acme varieties and the replanting was done with Trophy, Perfection and New Queen, there was no difficulty in keeping sight of the first planted. These plants were all set out in one plot of ground and all received the same cultivation, for the men employed in the planting and cultivating them knew nothing of the time of seed sowing, or that I entertained any thought of reporting results. I picked ripe tomatoes from these plants in the following order: the seed sown before the 15th of January and *cut down* produced the first; those sown before the 15th of February and *cut down* were next in order of ripening, while those sown before the 15th of January and *not cut down* were nearly two weeks behind the first mentioned and but a few days in advance of those sown the 15th of February, which were not cut down. It was only the sowings of January and February that were pruned back and from which the best results were obtained—the best not only in earliness, but in quantity, during the early part of the season when tomatoes were at a good price.

Now that I have given you the result of my *experience* in the growing of tomatoes, I would like to offer a few thoughts which occur to mind on this subject.

In the first place, giving exact dates of the time of sowing amounts to nothing with the majority of tomato growers, and now I refer more particularly to those who are not gardeners, but grow for family use; and I can no better illustrate this point than by relating a circumstance which came under my own observation a few years ago. When sowing tomato seed in January, a lady called to see me, and noticing my employment asked me to give her some seed, remarking that she would go right home and sow it, that she had some nice earth saved for her flower plants but would take some of it for this purpose. I gave her the seed out of the lot in my hand, and with the firm belief that I would hear from it again, and in this I was not disappointed. The following March, when my plants were fully six inches high, this lady came again, this time to tell me the seed I gave her was not good, as it would not come up; but showing her my plants was a convincing proof that this seed was good, and in the course of conversation I soon learned that she did not give her sowing either the degree of temperature or the amount of moisture necessary to germinate the seed. I suggested the use of a little more water and a higher temperature, at the same time giving her another lot of seed. After I had been gathering ripe tomatoes for about five weeks I met this lady, and learned from her that both lots of seed received of me came up, and that she had just picked her first ripe fruit, the March sowing being as early as the one in January. So much for date of sowing if the after treatment is not right.

As to early transplanting, out of doors, which I see advocated by an able writer for your columns, I would say a few words. I do not think there is anything to be gained by setting out a tomato plant before settled warm weather, for if once chilled by a single cold night it will feel the effect of it for weeks, while the later planting will shoot ahead and yield the first fruit.

In regard to cutting back, I do not wish to be understood as saying that top pruning the tomato plant will result in early maturing of the fruit just because it has been cut back, but I do say that if the other requirements for successful culture are made use of that we can get a greater quantity of fruit early in the season, and I think this can be readily explained; for if by top pruning we can have three leading shoots, we of course get just three times the amount of fruit that we will from the plant with a single leader, the conditions of the plant being the same in either case.

And what are the other requirements for successful culture? In our eagerness to settle the question of pruning, I think we are losing sight of the real work to be done in forwarding this plant. It does not amount to much whether you sow your seed in January, February or March, if your plants, at the time of setting in the open ground, have no more than seedling roots, or if by injudicious pulling or planting you have destroyed the rootlets they did have, for in either case your plant is reduced to the condition of a cutting just striking root, and the January sowing is no earlier than that of March. The main requirement for successful early culture of the tomato is repeated transplanting from the time of sowing in January until the plant is set in the open ground in May, thus producing a luxuriance of root growth, and this preponderance of root must be carefully preserved in setting out the plant; and with this practice for husbanding strength of root, I do believe in top pruning, because three leaders will be more productive than one, and I have experienced no difficulty in the plant bed through want of free circulation of air.

The writer referred to above quoted from the *Gardener's Monthly*, of July 1859, in support of his experience of the past season, but I think we have made considerable advance in knowledge of the wants of the tomato plant since that time. However, I can no better close this paper than by quoting the editor's note at bottom of the same article, on page 101, July number of the *Gardener's Monthly* for 1859.

["Both of our correspondents we know to be men of extensive experience in tomato growing. We may well exclaim "Who shall decide when doctor's disagree?" We shall be glad of the further experience of cultivators."—ED.] CHAS. E SANFORD,

Gardener Mt. St. Mary's College.

Frederick Co., Md.

Saving Cabbages Till Spring.

We know of no better way to preserve cabbages through the winter, says the Germantown *Telegraph*, than that which we have recommended for a number of years. It is to plant or set them up in rows as they grow—that is, with the roots down—fill in with soil pretty freely, then make a covering by planting two posts where there is a fence to rest on, or four where there is not, allowing for a pitch to carry off the water; lay bean poles opposite the way of the pitch, and cover with corn fodder, or straw, or boards. In using through the winter, avoid as much as possible the sun-side and close up again. We have not found that setting the cabbage upside down in the rows, as many do, of any advantage, as we have kept ours for more than twenty years in the way we mention, in a sound, perfect condition through the winter into the spring, and could even up to the first of may, if desirable. We see other methods recommended, and they may answer just as well, but as to our own, we speak from a long experience.

AGRICULTURE IN THE SOUTH.

Its Needs and Opportunities.

BY TH. POLLARD,

Ex-Commissioner of Agriculture of Virginia.

FRUIT GROWING AND WINE MAKING.

We were discussing the subject of *fruits* in our last, and expressed surprise that *apples* and *grapes* were so little cultivated in Piedmont, the mountain and valley regions of Virginia, where they may be so profitably grown. More attention, however, is being paid to them recently, and many vines are being planted in Albemarle county, where superior wine is being manufactured by the Monticello Wine Co. and private parties, among them conspicuously William Hotoppf.

The farmers of Virginia and Maryland, and the South, generally need to be more "wide awake." They have been told this "over and over." New England, New York and Pennsylvania, and the western States, generally are ahead of us. New England has been forced by climate and soil to improve her lands, and adopt an improved system of husbandry generally. We suppose Massachusetts is more advanced than any other State in the union in this respect; judg-

ing from the reports sent out by her State Board of Agriculture, though Connecticut, New York and Pennsylvania are steadily pushing to the front. The western States are beating us in farm machinery generally, though thus far they have not been forced in any considerable degree to the improvement of their lands by artificial fertilizers, though the time will assuredly come when they will be forced to do so, especially in the use of phosphoric acid (bone, or artificial phosphates). We mention these things by way of contrast, hoping the South will improve by the example of these States. To return to the subject of fruit, we have seen in our markets recently a very fine collection of apples and grapes. Where do they come from? Not from Virginia, unless it be very few, but mostly from New York and West Virginia, which latter state is beating Virginia in this industry; though as we have said the western portions of Virginia equal any other country for apple raising, and we may add grapes for wine production. For late keeping table grapes the North excels us, on account of the cool fall and later maturing, but if we were to take pains with our grapes, keeping them in cool places, particularly in our ice houses, we could, also, have them in the market at this season. We suppose the first productions of Virginia and Maryland are very similar, except that we have more mountain region, which seems especially adapted to the fruits we are discussing; but it is remarkable how much a little change of locality and consequently some change of soil and perhaps of temperature will influence the production of fruits.

It is stated that the celebrated "Johannisberger Wine" can only be produced in a small district in Germany, we think nine miles square.

The "Albemarle Pippin" grows in perfection only in the county from which it takes its name. It is true that it is produced successfully in Nelson and other Piedmont counties, but not equaling in quality those grown in Albemarle. But it is true this whole region in Virginia, to which we are referring, is an apple country, and we have seen as fine apples grown in the Valley of Virginia as we ever saw elsewhere.

The *Piedmont* region seems particularly adapted to *grapes*. The farmers in Albemarle who have gone into grape growing are realizing $100 per acre, and the supply for manufacture of wine is not sufficient. This season the "Monticello Wine Co." have been buying grapes from the vicinity of Richmond at 4½ cts. per lb., and we suppose from other localities. All that Piedmont country is a splendid grape growing region.

Some years since a very intelligent Frenchman visited this section and thus expressed himself: "That the country from Charlottesville to Lynchburg was as valuable for grape growing as if it was s'.eeted with gold the whole distance." The excellent wine manufactured in this region attests its superior merits as a grape growing country. The "Norton" is the best wine grape, and has been fully tested in Virginia, as well as elsewhere. The French are importing many vines and cuttings of it, believing it more hardy and free from "Phylloxera" than their native grapes. In this country thus far it has withstood the attacks of the dreaded Phylloxera, and proved very hardy. It is a native of Virginia and of the county of Hanover, and this may account for its hardiness, for it is a practical fact that all of our native varieties of fruits are more hardy and enduring than those foreign and imported. The late Gen'l W. H. Richardson, Secretary of the Commonwealth of Virginia, and Adjutant-General of the State, told me he had been shown the vine in Hanover from which Dr. Norton made cuttings for the celebrated Virginia Norton.

An old slave raised on the "Powhite" estate bordering on the Chickahominy river said to the General, "come with me, and I will show you the vine from which Mass Dr. Norton got the cuttings." The General followed him, and was convinced he was correct. We have seen grapes in Hanover that can scarcely be distinguished from the Norton; and in the mountains of Bedford, Virginia, we have seen a grape larger than the Norton, called the "Joslin Grape," from the discoverer, which has been manufactured into excellent wine—it is evidently of the same family as the Norton and the native black grape of Hanover.

We have spoken of the goodness of the wine manufactured in Albemarle. We think it is something wonderful. The French have had the experience of more than a hundred years, and have devoted their closest and most industrious attention to wine making, and we know how industrious and painstaking and skilful they are in all their callings, and yet the claret made in Albemarle is better by far than the ordinary claret of France. The French, no doubt, have some better clarets, but we rarely see them on our markets. The Albemarle clarets are made both of Norton and Ives and Concord, the former we think the best. And by the way Mr. Buck, of Prince William, has made a capital wine of the Ives, also a claret. These wines have more body than the French clarets, and will keep much longer without souring.

The absence of Phylloxera, or the resistance of the vine to it in this country, the perfect maturity of the grape, the long dry falls make the upper portion of Virginia, in our estimation, a great wine region. Nor do we believe successful wine making to be confined to the Piedmont region. Dr. Gilmer (our Richmond P. M.) living near Richmond, has been very successful in wine making, from both Norton, Concord and Herbemont, the latter a straw colored, rich delicately flavored wine, with enough sugar to make it acceptable to a majority of American palates. He, as well as Mr. Buck, have made an excellent article of grape brandy. Dr. McCarthy has also made excellent wine, near Richmond. All of Virginia seems the natural *habitat* of the grape; we see old vines through the country larger than one's thigh, and wild grapes in almost all directions. The "Slo," or "Muscadine," the same variety as the "Scuppernong" of North Carolina and the Southern States is found on the streams of Tidewater, Virginia. It is a sweet, excellent grape, and no doubt if cultivated would make very good wine, as does the Scuppernong. Virginia is rather cold for the Scuppernong, and it does not bear well here, though some half dozen vines will usually afford grapes enough for a family, and we think them an excellent table grape. The cultivated grapes of Tidewater seem to mature too early for wine making, not having time to form the proper amount of saccharine matter. We have seen some very good wine made in this region from the native wild grape.

We have indicated the varieties of apples we think best for Virginia, and the same latitude. Of grapes, Concord and Norton are the "main stays," both very productive and hardy, and both making good wine if properly matured, and properly managed. The Concord is the grape for the masses to eat, because of its productiveness, certainty every year, and its being well adapted to popular taste. The Norton is also a good table grape if well ripened. The Delaware, Croton, Maxatawney, some of Rogers' Hybrids, are good table grapes, but shy bearers in this latitude. Ives and Hartford Prolific come in early and sell well in market, though they are not full bearers. Catawba and Iona do well in the Piedmont country, but not in middle and lower Virginia. I have tried some eighteen varieties, and am convinced that the Concord and Norton, the former more especially for table and the latter for wine, are the grapes for most of Virginia. The Concord too will make good wine.

The American Farmer

"O FORTUNATOS NIMIUM SUA SI BONA NORINT AGRICOLAS." . . . . . *Virg.*

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Maryland Dairymen's Association.
Maryland State Grange, P. of H.
Agricultural Society of Baltimore Co.

Also, of the **Maryland Poultry Club**, Thos. W. Hooper, Secretary.

BALTIMORE, NOVEMBER 1, 1883.

The Farmer for 1883.

It is not too early to call upon our subscribers and readers to begin to urge upon the attention of their friends and neighbors the claims of THE AMERICAN FARMER for 1883. Its past conduct is a warranty of its future course, and we promise to do our part to maintain and increase, if possible, its attractions and usefulness in every department. The same hands that have contributed to its columns in the past will continue to give their best thoughts therein, and in every way we feel justified in asserting that in nothing will it be allowed to decline from the high standard so long maintained in its publication as a farmers' and home journal.

Mr. Whitridge's Polled Angus Cattle.

At the Baltimore County Fair in the competition between bulls of the beef breeds, Mr. W. H. Whitridge's imported Sir Eustace bore off the honors—a silver cup, in competition with a Hereford and a Dutch Holstein, the judges declaring he was one of the best beef animals they had ever seen. Mr. Whitridge exhibited his cattle at Frederick and Washington County Fairs, where they were much admired.

Maryland County Fairs.

WASHINGTON COUNTY.—Under an active and business-like management, the Society here is progressing successfully and the Fair this year was a successful one in every respect, the attendance, notwithstanding the rains, being large every day. A number of herds from Baltimore County added to the attractions, Messrs. von Kapff, Banks, Watts and Seth, showing Jerseys; Mr. Whitridge, Polled Angus; Dr. Patterson, Dutch Freisan; Mr. Merryman, Herefords, and Mr. Watts, Guernseys.

The awarding of the five prizes offered by Mr. B. F. Newcomer, of Baltimore, to lads under eighteen years, amounting in the aggregate to $300, for the best crop of corn produced by their own labor from one quarter of an acre of land, excited great interest, not only among the twenty-six contestants and their friends, but among farmers without exception, and the result shows what may be accomplished by careful cultivation.

In the absence of Mr. Newcomer, Gov. Hamilton delivered the prizes to the successful contestants, with a few encouraging remarks. They were as follows:

John C. Harp, first premium, 47 bushels and 28 pounds, or at the rate of 188½ bushels per acre, $100; Benj. F. Emmerson, second, 41 bushels and 57 pounds, or 167 bushels to the acre, $50; Jos. W. Harp, third, 37 bushels and 16½ pounds, or 146 bushels to the acre, $25; Wm. Cushen, fourth, 34 bushels and 08 pounds, or 139½ bushels to the acre $15; Frank E. Beeler, fifth, 34 bushels and 27½ pounds, or 137½ bushels to the acre $10.

Dr. F. W. Patterson, of Lochearn, Baltimore County, sold whilst at the Fair to Mr. Benjamin Rench, a Dutch Fresian bull calf, 17 days old, out of imported Walsje by Klang, for $200; and Mr. G. S. Watts sold to Mr. John N. Ripple a Guernsey bull calf, 11 months old, out of Cloelia, by Earl Barker, for $300.

CECIL COUNTY.—This fair was a great success, all the departments, except perhaps in some classes of live stock, showing a marked increase over previous shows, and the quality of the exhibits deserved high praise. The Horticultural and Household Departments were conspicuously well filled, with a great variety of beautiful and useful products. The machinery and implement exhibitors occupied a great space, and the trotting is reported as unusually good.

HARFORD COUNTY.—The display of stock, etc., was hardly as large at this Fair as usual, and the unfavorable weather interfered with the attendance. Among the cattle the Short Horns predominated, there being also some fine Jerseys and a few Devons and Ayrshires and a number of good grades and natives. Sheep were not very numerous, but the swine were abundant and excellent, Mr. Fulford's Berkshires being at the head. The machinery department was large and interesting, and the manufactures of the county were well represented. Gen. Bradley T. Johnson delivered the annual address, and there were many attractions in the way of trots, races, diversions, burlesque processions, etc.

FREDERICK COUNTY.—The Fair here, we believe, was hardly up to the usual standard in point of extent, but there was some good stock and the number of visitors was large, considering the frequent showers and the cloudy weather.

MONTGOMERY COUNTY GRANGE No. 7.—The regular Grange meeting was held at the Great Falls of Potomac, 26th October. The fine weather and the attractive place combined to bring out a large attendance of members and visitors—40 voting delegates being present. As a further step to procure protection for sheep, a committee was appointed to call a general Sheep Growers' Association for this county. Resolutions were adopted providing for an investigation of Maryland Agricultural College, to see if it is suitable and could be turned into an Experimental Station. D. Lawrence read a report on ground limestone, showing the fallacy of most of its claims. A public meeting was held in P. M., and addresses made, by Wm. H. Farquhar, Hobart Hutton and Isaac Young.

Home Department.

What Ailed the Pudding?

"What shall we have for dinner to-day?"
Said Mrs. Dobbs, in her pleasant way;
"For Sally has much to do, and would wish
That we'd get along with an easy dish—
Something that wouldn't take long to prepare
Or really require much extra care."
Said Mrs. Dobbs: "There isn't a doubt
But what we'd all fancy a stirabout!"

"A hasty pudding! Hurrah! That's nice!"
Exclaimed the girls and boys in a trice.
Then Sally put on the biggest pot,
And soon the water was boiling hot,
And Mrs. Dobbs mixed together some flour
And water, and in less than half an hour
The pudding began to bubble up thick
And dance about with the pudding-stick.

Said Mr. Dobbs, as he made a halt;
"Our Sally is apt to forget the salt;
So I'll put in a pinch ere I leave the house"—
And he went on tip-toe, as still as a mouse,
And, dropping a handful in very quick,
Stirred it well about with the pudding-stick,
And said to himself: "Now, isn't that clever?"
At which the pudding laughed louder than ever.

Then Mrs. Dobbs came after a while,
And looked in the pot with a cheery smile,
And thought how much she'd enjoy the treat,
And how much the children would want to eat;
Then said: "Our Sally has one great fault—
She is very apt to forget the salt!"
And into the hasty-pudding was sent
A handful of this ingredient.

"John, George, and Jennie, and Bess, in turn;
Gave the stick a twist, lest the pudding burn,
For oh! how empty and wretched they'd feel
If anything ruined their noonday meal!
And each in turn began to reflect,
And make amends for Sally's neglect,
For the girl was good, but she had one fault—
She was very apt to forget the salt!

But Sally herself, it is strange to say,
Was not remiss in her usual way;
But before she went to her up-stairs work
She threw in a handful of salt with a jerk,
And stirred the pudding, and stirred the fire,
Which made the bubbles leap higher and higher,
And as soon as the clock struck twelve she took
The great big pot off the great big hook.

It wasn't scorched! Ah! that was nice!
And one little dish would not suffice
Mr. or Mrs. Dobbs, I guess,
John, or George, or Jennie, or Bess;
And as for Sally, I could'nt say
How much of the pudding she'd stow away,
For she was tired and hungry, no doubt,
And very fond of this stirabout.

A happier group you'd ne'er be able
To find than sat at the Dobbs's table,
With plates and spoons, and a hungry wish
To eat their fill of the central dish.
But as Dobbs began to taste
The pudding, he dropped his spoon in haste;
And all of the children did likewise,
As big as saucers their staring eyes.

Said Mrs. Dobbs, in a voice not sweet;
"Why, it isn't fit for the pigs to eat!"
And I doubt if an artist would e'er be able
To depict their looks as they left the table.
Said Sally: "I thought it would be so nice!
But I must have salted that pudding twice!"
And none of the family mentioned that they
Had a hand in spoiling the dinner that day.

—*Independent.*

The Summer Campaign.

The summer months are particularly hard on country folks. The heat, the harvest, the flies, canning, preserving, and the inevitable flock of visitors arrive about the same date, and for three months it is one long struggle to make one,s work fit in with other people's leisure and pleasure.

To the citizen, summer is the season of comparative rest. There are many occupations which almost cease through the heated term, and nearly all the "well-to-do" fly from bricks and morter to the vaunted quiet and coolness of rural homes. However much of rest and seclusion the city visitor may find, it is a solemn fact, that the farmer and the farmer's family must toil without ceasing, through the intense heat, to secure all on the farm that would otherwise be lost.

The wife of the merchant or doctor, or lawyer, though her management may contribute to the excellent maintainment of the home, is not in the same sense, the business partner of the matrimonial firm, as is the farmer's wife. On many country women the mental and physical care of the garden, the dairy, and the poultry depend, and if to this is added the supervision of home and children, and the entertainment of guests, the work is certainly calculated to wear out body and mind. We all know that "Hospitality is the honor of the house," and it is delightful to have our "sisters, our cousins, and our aunts," descending upon us with their city ways and gossip, their bright dainty toilets, their enjoyment of our fresh vegetables, our shady nooks, our picturesque loads winding in from the fields; their amazement at the apparent ease with which butter is made, big dinners cooked, baskets of fruit always gathered for refreshment, horses ever ready at the door to ride or drive, and ourselves always supposed to have on a new calico dress and clean white apron, and our company smile and manners from May till October. Amidst this seeming serenity and persistent pretence of leisure, where there is none, country life in summer is very much of a scramble; there is such a multiplicity of things to do, and so many strange people to see us do them, the most systematic nature is apt to be thrown out of gear and thankful to accomplish *everything, anyhow*, regardless of rule or precept. When the fall comes upon us, and we are able to pause and take a long breath, we almost wonder how much of life we have lost, and how little gained in all the past months. Yet almost every experience has its usefulness; if it does not enlarge the intellect, it may satisfy the heart, and in the meeting of various people from different sections, the gaining of new ideas, the glimpses of the outside world brought into our lives and homes, and especially in the giving of pleasure to others, must be the reward and benefit of the season.

To us the bloom and beauty of the fields, the strength of the woods, the soothing hum of insect life, the expanse of sky, the rest and quiet of summer evenings, is a matter of course, and hardly noted but to the "city cousin," with nerves all quivering from the continued jar and glare and heat of the crowded town; these country sights and sounds are more than we can comprehend.

Give any city boy the freedom of a farm, and though he is hot, dirty, tired, consumingly hungry, and everything that he never was before he is happier than any king that ever wore a crown; throw in any kind of a horse for his exclusive use, and he tastes the delights of Paradise, though it is by no means certain his steed will share his master's joys.

Statistics tell us that hidden away in remote villages and sequestered farm houses, are the future poets, statesmen, thinkers, and writers of the coming age. Genius seems indigenous to the soil, it seldom flourishes in big cities, but has its birth and inspiration "far from the madding crowd." Talent has no perception of the fitness of outward surroundings, and originality is such a rare plant that if we are entertaining, unawares, the future master minds, it seems to devolve upon our country people a crushing responsibility, and should make us more than careful to direct and train the youthful but undeveloped great ones among us, and for their sake as well as our own, to keep ourselves unspotted from the world. There are always smart people enough, but what we need are people who can be trusted, people who can fill with honor to themselves and good to their fellows, every position in life. If we are to grow with our corn and potatoes, men whose pens are destined to become mightier than their plow-shares, let us hope that *their education* for the good of humanity, may begin with the alphabet of morals, and the golden rule take precedent of the rule of three.

Let us congratulate ourselves that the heat and the toil of the summer are behind us, that the abundant harvest is secured, and with the autumn will come the leisure, and the inclination to gather up again the more regular threads of existence, to resume the neglected duty, to re-open the favorite book, and to enjoy once more the peace and comfort of country living. E. N. B.

Olney Grange.

A paste composed of half a cup of flour and the same amount of table salt, laid on plentifully, not so thin as to run and not so thick as to dry quickly, is very good for scalds where the skin is unbroken. The paste is most useful spread on brown paper.

Boarding Schools Again.

To CERES:—

I am just about to be off on a fresh campaign in the school room, and while I would gladly respond to your wish about ventilating the subject of girls' welfare in the *boarding department* of most schools, yet I must be excused for the present, at least, because I am really too busy packing, arranging, etc. for my departure. But I will not "lay the subject on the table" without making a single observation in a few words. I very much doubt whether the intellectual culture (under the usual management) pays for the dwarfing of the heart and blunting of the sensibilities of a woman's finer nature. After twenty years' experience, I have come to this sober conclusion. The only school that I have ever taught in, to which I would send my own sister again, has *no boarding department*, and the principal gave me the reason as above stated. The students, about three hundred, are distributed among private families, four to six in a family. Besides their sleeping rooms, they have their own parlor, and entertain their visitors there. There are certain rules and regulations to which they are subject, and the principal looks to the heads of these families to see that they are rigidly carried out. If there is any infraction the girl must make amends or change her boarding house, which would, of course, call the attention of the principal without that odious system of "tale bearing." There was no studying done by *regulation* or *compulsion* after six o'clock P. M. After tea the girls mostly sat with the family in which they boarded, chatting pleasantly about the day's doings, while their fingers were engaged with some family work, or as was the case when I boarded, listening to selections from the leading papers or periodicals, read aloud by some one of us. If any of us wished to study or if visitors called, we retired to our cozy little parlor until bed time, which was ten o'clock, under the penalty of expulsion. The professors and girls frequently met as accidental visitors in our parlors, and I was charmed to find how delightfully unrestrained yet dignified the intercourse between teacher and pupil could become, without the system of watching and marking, that pits one against the other. I found that the teacher and pupil were *not* "natural foes," as I had always supposed. It is the natural result of a degrading system of watching and dodging. Every pupil was thrown on her own responsibility and answered at roll-call, whether she had observed *all* the rules or not. If a girl answered incorrectly she lost caste among her "set," and I may add that caste was regulated more by *principle* than by both fashion or money. These inadvertencies at roll-call were usually settled by the girls among themselves, rather than by the teachers. It was not often the case that teachers and girls boarded at the same house, but they frequently exchanged visits. I wish I had time to speak of music, to show how much time and money are generally wasted year after year; and still the daughter "finishes," without being able to read at sight or even to compose an one grade waltz. I would like to tell how those who take music are required to sing at sight (*nolens volens*, voice or no voice), to study thorough bass. Harmony and sight reading, and the musical composition must come once a week as well as the English composition. But I am pressed for time and must close, hoping that at some future day Providence may bring us together, and that I may be able to tell you how much good your articles have done away off west, towards the Rocky Mountains. CAMELIA.

Baltimore, Md.

To remove a grease spot from the carpet, put a tablespoonful of ammonia into a basin of water, rub with a cloth and the grease will disappear.

Restlessness of Old Age.

Those who have been much with the aged have observed in them a chafing against the infirmities of their years which expresses itself in restlessness and desire for change. They grow weary of that inactivity which has succeeded the busier times, when they bore the heat and burden of the day. And so sometimes they wander here or there, dropping in to visit a friend or talking with a chance acquaintance, trying thus to while away the tedious hours. In mistaken kindness and unkind affection, we often oppress dear, aged people by our very care. They dislike supervision. The tender watchfulness which to us seems due to their physical feebleness, as well as a fit return for their care of us in earlier days, is by them resented as restraint. It annoys them. Then, too, we try to take all the work out of their hands, and that they do not like. Nobody, who has been active and useful, enjoys the feeling of being laid on the shelf. Grandfather's step is uncertain, his arm less vigorous than of old, but he possesses a rich treasure of experience, and he likes to be consulted. It is his privilege to give advice; his privilege, too, at times to go into the field and work with the youngest, renewing his youth as he keeps bravely up with hearty men not half his age. Grandmother does not want to be left out of the household work. When the days come for pickling and preserving, and the domestic force is pressed into the service who is so eager and full of interest as she? It is cruel to overrule her decisions, to put her aside, because we naturally think "she will be tired." Of course she will be tired, but she will enjoy the fatigue; and rest the sooner for the thought that she is still of use in the world. To those whose homes are honored by the presence of an aged parent we would say, deal very gently with those who are on the downhill of life. Your own time is coming to be where they now are. You, too, are "stepping westward." Soothe the restlessness of age by amusement, by consideration, by non-interference, and by allowing plenty of occupation to fall in the hands that long for it. Only let it be of their own choosing, and cease to order their ways for them as though they were children. A hoary head at the fireside is a crown of glory to the house where it dwells. The blessing of the aged is as dew on the pastures, as the falling of sunlight in a shadowy place.

Unselfish Children.

A "Letter to Young Mothers," in Scribner's Monthly, taking for text the remark that "always to receive and never to give is as bad for children as for grown people," offers the following suggestions:

To be sure, there is not much they can do for you, but what they can do is worth very little in itself, but just because it developes a generous thoughtfulness for other people's pleasure. Children are naturally generous, and delight to make and give presents, until they see their gifts considered as rubbish. Probably they are, but a great deal of love can be put into very common things. You keep their birthdays. Encourage them to remember the birthdays of the older members of the family, even if their celebrations are troublesome and their presents useless. In the family festivals, let them have something to do for somebody else. Do not let the doing be always on your side. * * *

I saw another birthday celebration once, and I shall never forget it. The mother's birthday had come too soon for the child's calculation, and there was no preparation made. The oldest, a sensitive, loving child of seven years, was overwhelmed with grief, and sobbed, "Mamma is always giving us something, and getting up things for us, and now we have forgotten her. Oh! dear, dear!"

Close by stood a little basketful of stones, picked up in their afternoon ramble—just such stones as you can find in any New England pasture lot, or by any stone wall. But the white, imperfect quartz crystals and the shining little bits of mica seemed very beautiful to the child. Suddenly she noticed the basket. There was a hurried consultation with the younger sister, a great parade of secrecy and business, a rattling of stones in the kitchen wash-basin, and much dancing about and shouts of "Now, mamma, we've got something for your birthday. Don't look into the basket! Now, don't guess—oh! you never can guess what it is!"

The next morning at breakfast there was something on mamma's plate, heaping up the napkin so carefully spread over it.

When the napkin was lifted there was nothing but the heap of shining stones, but the children were as happy as if they had been gold and diamonds. Said the youngest: "Mamma, I picked out the very prettiest, the very whitest and shiny-est;" and the oldest added, "We washed them just as carefully last night."

The father said afterward:

"They came to me in the evening in great glee, for now they had something for mamma, and they showed me the stones, all wet and dripping in the basket—about as pitiful a thing for a present as could be imagined."

A trifle, you say, but the love and delight that went with that worthless little pile of stones could not be counted by dollars. No wonder the mother's eyes grew dim, as she looked from the stones heaped upon her plate to the glowing faces of the children, and that she carefully put the stones away. Trifles like these are the very dearest of treasures to a mother's heart, if some day the bright eyes that shone with delight are forever shut from her sight, and the busy little hands are folded still and cold.

You never know how long you and your children will have each other. At best they will not be little children always. Make the life which you live together as happy and as full of yourself as possible. If you can do but little, put plenty of love and sunshine into that little. It is worth a great deal to have them grow up with the habit of being happy. If this habit comes—not because every wish is gratified, but because they are always busy at some cheerful or helpful work, never fear that they will grow up querulous and selfish. Children so trained are not apt to fall into fashionable listlessness, or to give themselves up to idle grief, if disappointment and sorrow come into their mature lives.

Echoes to "Helpful Words."

How true it is that a word thoughtlessly uttered may make or mar the day's happiness. I taught once in a private family, where I do believe that my cup would have been full to overflowing, but for a "cantankerous" great-aunt, who regarded the teacher in the light of two generations back, when she was admitted to the social circle by "suffrage." She never failed to goad me in public or private with the difference between teachers *now* and what they *used to be* in her day, in that same household (but not the same generation, of course). She was never reconciled to my breakfasting with the family or being invited to the dinner table on state occasions. The attentions paid me by the mother, children and other members of the family were openly commented upon, until I dreaded to go to the table for the others' sake as well as my own. I nearly always had a cry before going into school, until finally the dear mother came to me with tears in her eyes, and proposed sending my breakfast to my room. Said she, "We all admire your calmness and self-possession under such insults, and it is to enable you to *begin* the day pleasantly that I wish to send your breakfast up to you. No one can do herself justice as a teacher whose heart is aching as yours must be. We cannot send her away, and it seems to me that this is the only remedy. You will be secure from such insults until 5 o'clock, P. M., at least." Oh, how I blessed her! God only knows what I had suffered under the persecutions of Aunt H., who had nothing against me except that I was treated by the other members of the family with kindness and consideration. Breakfast was the meal at which the mother wished all the family to be prompt and punctual. She had family prayers, and then we all sat down to the table. It galls me yet to remember how Aunt H. grudged me a place even at the family altar, and her never failing comments about "teaching people *now*, and what they *used to be*." I prayed in my own private devotions to be spared at this meal, and the prayer was answered when the mother proposed to send my breakfast to my room. I suggested that this would subject her to a fresh attack about indulging "teaching people," and thought it would be better for the girls and myself to breakfast early, as they, like myself, generally went into the schoolroom all awry about some lecture or reprimand from Aunt H. This was the programme for the future, and we had a happy time at breakfast until I left for vacation. "I would have left at first," I hear some one say; but there was an execution impending against the home of my ancestors, and if I had left it would not have been honorable, as they had advanced, nobly and generously, the amount that I needed to stay the execution. Surrounded by lovely and kind friends, and with every comfort that money could buy, still many days were dark and many moments were bitter, because of that one "unbridled tongue." Ever since that year I have watched myself at the breakfast table, and try to do *my part*, at least, towards making every heart light for the day's burden. Like Ceres, I think many a day is spoiled by the doings and sayings at the breakfast table. CAMELIA.

Baltimore, Md.

The Grange.

National Lecturer's Communication.

SUBJECT FOR SUBORDINATE GRANGES FOR NOVEMBER.

Question.—How can we apply co-operation most successfully?

Suggestions.—Co-operation, in its comprehensive view, has a wide latitude. It is the very essence of Grange work. Farmers have but little conception of the value and available force of true co operation, indeed many Patrons have not given the subject sufficient thought to comprehend it. Co operation is the only successful means that can be employed in accomplishihg the results desired. The future of our organization depends largely upon the co-operative efforts of ourselves, and if properly employed, would soon exhibit desirable results. The first step towards co-operation is to discard in ourselves that selfishness that sees no good in others; cultivate confidence in each other; be true to ourselves, our obligations, and to those of our order; act in harmony, work unitedly together, cultivate brotherly love, seek to accomplish the greatest good to the greatest number. The universal practice of these principles will accomplish the most good both in and out of the Grange. Co-operate then to build up our order, advance its interest upon the pure principles upon which it is founded. Through the method of co-operation the American farmers will eventually be freemen and masters of their own situation. That will give them the profits of their own product, or it will make them mere serfs, and other men will take our profits. If Patrons and farmers will learn to apply the force of co-operation judiciously, they can emancipate themselves from the burdens of injustice, and be free men, and save the profits justly due them. If they fail in doing this, the co-operation employed by corporate power will make them the servants of capital, and they will take the profits to themselves.

A New Grange.

DAYTON GRANGE, Howard county, was organized Saturday, October 28th, by W. S. T. Master H. C. Devries. Balloting resulted in the choice of the following officers: Master, Dawson Lawrence; Overseer, Samuel Gaither; Steward, Thos. H. Batson; Lecturer, Joseph Smallwood; Assistant Steward Thomas H. Batson; Chaplain, Martin H. Batson; Treasurer, Wm. McK. Peddicord; Secretary, T. V. Sansdale; Gate-keeper, Aaron Bergman; Pomona, Mrs. E. F. Lawrence; Flora, Mrs. M. L. Smallwood; Ceres, Miss M. J. Batson; L. A. S., Miss A. R. Smallwood.

Baltimore Markets—Nov. 1

Flour.—The market dull. We quote: Howard Street Super, $3.50@4.00; do. Extra $4.25@4.75; do. Family $4.87@5 00; Western Super $3.50@4 00; do. Extra $4 25@4.75; do. Family $4.87@5 00; City Mills Super $3.50@4.00; do. Extra $4.25@4.75; do. (Rio Brands) Extra $5.75; Baltimore Winter Wheat Patent $7.00; do. High Grade Family $6.25; do. Second Grade Extra $5.85; do. Third Grade Extra $5.70; Baltimore Pearl Hominy $5.00; Grits $5 25; Corn Meal per 100 lbs. $1.75@1 80; Baltimore Chop $1.65@1.69.

Wheat.—The market was steady and quiet. We quote: Tough to choice Longberry, afloat, at 105@114c.; fair to prime Fults at 103@107c.; at 75@100c. for inferior and very common. Spot and October 105@105¼c.; November 105@105¼c.; December 107¼@107¾c; January 109¼@109¾c.

Corn.—There was a rather better supply of Southern in market, which sold freely, in small lots, for old white 88c.; for new 75; yellow 87 for old and 73 for new. After Change the business was confined entirely to year and January Corn, for which the market was steady and quiet at 64@64¼c. for the first named, and 59¾@60 for January.

Oats.—Prices ruled easy and lower. We quote: Western mixed 44@45c.; Western White, 46@48c.; Pennsylvania 45@48c.; Maryland and Virginia 45@50.

Rye.—The inquiry was fairly steady and the market quiet. Sales of small lots fair Mary and at 66@67c.

Seeds.—New Cloverseed is coming into market, but the receipts are light, and the quality generally only fair; sales range at 8 to 9c. From the trade and for shipment there is a fair jobbing demand at 9¼@10 cts.; Orchard Grass $1.50@—; Kentucky Blue Grass $1.50@—; Red Top $4.25@4 50 per sack of 5 bushels.

Hay and Straw.—There is a fair inquiry for Hay, with the market easy on liberal receipts. We quote as follows: Choice Cecil county Timothy at $18@19; New York and Western $14@17; Maryland and Pennsylvania $14@16; mixed $11@13 per ton; Clover $10@12. Straw is quoted at $8@9 for Wheat; $11@12 for Oat; $12@13 for long Rye, and $10 for short do.

Mill Feed.—There is a less liberal supply of Western, and the market is firmer at $18@19 per ton for Middlings, and $17@18 for Bran. City feed is steady at $19 per ton for Brownstuff and Middlings.

Provisions.—The market for hog products is easy, and we note lower prices for several leading articles, with a fairly active jobbing demand. We quote packed lots as follows: bacon clear rib sides 12c.; bacon shoulders 12¾c.; bulk clear rib sides 14¾c.; Bulk shoulders, 11¼c.; bulk long clear 14¼c.; pork, mess, $24.75 for new; lard, refined, tierces and barrels 13¾c.; canvassed hams, 11-lb. average, 17¼c.; uncanvassed, 11-lb. average, 16¾c.; small breasts 16c.; pork strips 13c; sugar-cured shoulders 12c.; fat backs 14¼c.; sugar-cured beef 15c.

Butter.—Receipts are only fair, with a firm and active market. We quote as follows: New York State choice 31@32c.; Creamery fancy 35@36c.; do. prime to choice 31@32c.; Western Reserve choice 23@25c; do good to prime 20@22c.; New York Dairy, tub choice, 2c@23c.; good to prime do. 27@28c.; Oleomargarine, solid-packed, 17¼@18c.; in tcl s 18@19c.; Near-by receipts 18@20c.

Cheese.—The receipts are liberal, and the market is steady, with good demand at our quotations: Eastern Fine Cream Cheese 12@13¼ cts., and 13¾@13 for good to prime; Western at 13½@12¾ for choice, and 12¾@12½ cts. for good to prime; half-skimmed choice 9@9½ cts.; do. good to prime 8@8¾ cts.

Eggs.—Receipts have fallen off, and, with an active demand, prices are higher. Sales of fresh stock at 25@27 cts. per dozen.

Poultry.—With full receipts the market is easy at our quotations: Old Chickens 9@10 cts. per lb; young Chickens at 12@13 cts., the latter price for those weighing 1 to 1½ pounds. Ducks $2.50@3 per dozen. Geese 50@65 cts. each.

Cotton.—The market is dull and easier; very little inquiry; spinners carefully feeling their way. We quote nominally: Good Middling 10¾@10¾ cts.; Strict Low Middling 10¼ cts; Low Middling 10 cts.; Strict Good Ordinary 9¾@9¾c.; Good Ordinary 9 cts; Ordinary 7¾ cts. Futures: November $10.40; December $10 39; January $10 47@10.48; February $10.58@10 59; Mar. $10 69@10 70; April $10.80@10.81; May $10.91@10.92; June $11.02@11.03; July $11.13@$11 14; August $11.22@11.23.

Tobacco.—*Leaf.*—The Market is firm in tone, and the tendency of prices is in sellers' favor. We quote: Maryland inferior frosted $2 50@4.00; do. sound common $4.50@5.50; do. good common $5.50@6.50; do. middling $7 00@7.50; do. good fine red $8.50@10.00; do. fancy $10.00@15 00; upper country $4.00@10.00; do ground leaves $3@8.

Live Stock.—*Beef Cattle.*—To-day's market was slow throughout. Prices at wholesale were a fraction higher than last week, and retail prices in the beginning were a trifle higher, but the advance was soon lost, and quotations before the close were generally ¼c. lower than last week. We quote: Best $5.75@6.12½; that generally rated first quality, $4.87½@5 50, medium or good fair quality $3 87½@$4 87½; ordinary thin steers, oxen and cows, $2.75@$3.62½; extreme range of prices, $2.75@6 12½. Most of the sales were from $3.12@5 per 100 lbs. *Hogs.*—There has been a marked decline in prices, and at the figures quoted to-day the market is firm. We quote at 9@10 cts. per lb. net, with a few extra at a shade higher figure. *Sheep and Lambs.*—There has been no outside demand this week, and butchers are buying very slowly, as not many are in need of stock, so that the market has been rather dull. We quote butcher Sheep at 3@5 cts., and Lambs at 4@5¼ cts. per lb. gross. Stock Sheep—Ewes at $2@2.50 per head, and Wethers 3¼@4¼ cts. per lb. gross.

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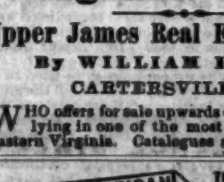

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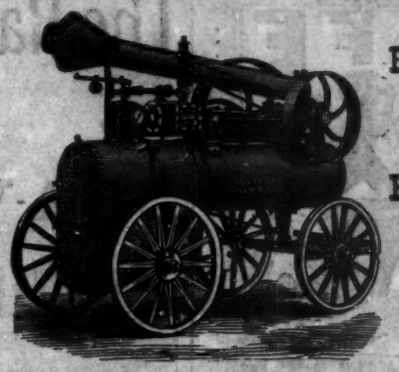

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